DRAFT

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

CES

ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

THE UPGRADE ON NATIONAL ROUTE R63 SECTION 16 BETWEEN N6 BRIDGE (KM 1.0) AND THE N2 PAST KOMGA (KM 43.64): 4 QUARRIES AND 4 BORROW PITS WITHIN THE GREAT KEI LOCAL MUNICIPALITY OF THE EASTERN CAPE PROVINCE, SOUTH AFRICA

DMR REF: ***EC 30/5/1/3/3/2/1/000114BP EM***

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Prepared for:	On behalf of:
UWP CONSULTING enhancing the quality of life **UWP Consulting**	SANRAL SOUTH AFRICAN NATIONAL ROADS AGENCY SOC LTD BUILDING SOUTH AFRICA THROUGH BETTER ROADS **South African National Roads Agency SOC Ltd (SANRAL)**

Prepared by:

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

East London
25 Tecoma Street
East London
5214
043 726 7809
Also in Grahamstown, Cape Town, Johannesburg, Port Elizabeth and Maputo (Mozambique) and Romsey (UK)
www.cesnet.co.za

June 2019

REVISIONS TRACKING TABLE

This Report should be cited as follows: CES, June 2019: *The Upgrade of National Route R63 Section 16 between N6 Bridge (Km 1.0) and the N2 past Komga (Km 43.64) within the Great Kei Local Municipality of the Eastern Cape Province*, *Draft Environmental Impact Assessment Report*, CES, East London.

CES Report Revision and Tracking Schedule

Document Title:	The Upgrade on National Route R63 Section 16 between N6 Bridge (Km 1.0) and the N2 past Komga (Km 43.64) within the Great Kei Local Municipality of the Eastern Cape Province, Draft EIA Report		
Client Name & Address:			
Status:	DRAFT		
Issue Date:			
Lead Author:	Thina Mgweba		
Reviewer:	Roy De Kock		
Study Leader/ Registered Environmental Assessment Practitioner – Approval:	Alan Carter		
Report Distribution	***Circulated to***	***No. of hard copies***	***No. electronic copies***
Report Version	***Date***		

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES
Info@cesnet.co.za
www.cesnet.co.za

TABLE OF CONTENTS

1 INTRODUCTION 1

1.1 Background to the study 1
1.2 Environmental Authorisation in South Africa 1
1.3 Scoping Phase 2
1.4 EIA Phase 3
Specialist studies 3
The Public Participation Process 3
Assessment of the Significance of Impacts 3
Mitigation Measures and Recommendations 3
Planning input 3
Environmental Impact Report 4
1.5 Mining Right Application 4
1.6 Nature and Structure of this EIA Report 4
1.7 Assumptions and Limitations 4
1.8 Mining Right Application 4
1.9 Details and Expertise of the Environmental Assessment Practitioner 5
1.9.1 Details of the EAP 5
1.9.2 Expertise of the study team 5

2 LOCATION OF ACTIVITY 7

3 PROJECT DESCRIPTION 21

3.1 Description of the proposed Activity 21
3.2 Listed Activities Triggered 21

4 RELEVANT LEGISLATION 23

4.1 Relevant Legislation and Guidelines used in the Compilation of this Scoping Report 23
4.2 Relevant Policy 24
4.2.1 National Policy 25
4.2.2 Provincial Policy 25
4.3 Municipal by-laws and planning 26
4.3.1 The GKLM IDP (2013/2014) 26

5 PROJECT NEED AND DESIRABILITY 27

6 PROJECT ALTERNATIVES 28

6.1 Reasonable and feasible alternatives 28
6.2 Fundamental Alternatives 28
6.3 Incremental Alternatives 29
6.4 No-go Development 29
6.5 Analysis of alternatives 29
7 PUBLIC PARTICIPATION 33
7.1 Notification of Interested and Affected Parties 33
7.1.1 Public Participation 33
7.1.2 Newspaper advertisement 33
7.1.3 On-site Notice 33
7.1.4 Stakeholders and I&APs 33
7.1.5 Background Information Document 34
7.1.6 Proof of Notification 34
7.1.7 Issues raised by stakeholders and I&APs 35
8 DESCRIPTION OF THE ENVIRONMENT 36
8.1 The Biophysical Environment 36
8.1.1 Current land use 36
8.1.2 Climate 37
8.1.3 Topography 37
8.1.4 Geology and Soils 38
8.2 Rivers and Wetlands 39
8.3 Vegetation 41
8.3.1 Mucina and Rutherford 41
8.3.2 Forest classification 42
8.4 Conservation of spatial planning tools 43
8.4.1 Eastern Cape Biodiversity Conservation Plan 43
8.4.2 Protected Areas (NEMPAA & NPAES) 45
8.5 Socio-Economic Profile 45
8.5.1 Population 45
8.5.2 Employment 45
8.5.3 Education 46
9 APPROACH TO THE ENVIRONMENT IMPACT ASSESSMENT 47
9.1 General Impact Assessments 47
9.2 Specialist Impact Assessments 47
9.3 Methodology for Assessing Impacts and Alternatives 47

Description of criteria *48*

10 KEY FINDINGS OF SPECIALIST STUDIES **51**

10.1 Specialist Studies **51**

10.1.1 Ecological Impact Assessment *51*

Alien vegetation *53*

10.1.2 Freshwater Assessment *55*

10.1.3 Heritage Impact Assessment *55*

10.1.4 Palaeontological *56*

10.2 Sensitivity Assessment **57**

11 IMPACT ASSESSMENT **58**

11.1 Possible Environmental Impacts **58**

11.1.1 General Impact Assessment *59*

11.1.2 Specialist Impact Assessment *59*

12 IMPACT STATEMENT **63**

12.1 Environmental impact statement **63**

12.2 Comparative Assessment of impacts **65**

12.2.1 General Impact Assessment *65*

12.2.2 Ecological Impact Assessment *65*

12.2.3 Aquatic Impact Assessment *66*

12.2.4 Heritage Impact Assessment *66*

12.2.5 Paleontological Impact Assessment *67*

12.2.6 No-go Impact Assessment *67*

12.3 overall site sensitivity **67**

12.4 Consideration of alternatives **67**

12.4.1 Location Alternatives *67*

12.4.2 Technology Alternatives *68*

12.4.3 Layout Alternatives *68*

13 CONCLUSION, EAP OPINION AND RECOMMENDATIONS **69**

13.1 description of the proposed activity **69**

13.2 description of the proposed activity **69**

13.3 Opinion of the EAP **70**

13.4 Recommendations of the EAP **70**

14 ADDITIONAL INFORMATION **78**

14.1 financial provisions for rehabilitation **78**

15 REFERENCES 79

16 APPENDICES 80

16.1 appendix A: public participation documents 80

16.1.1 Newspaper advert 80

16.1.2 Background Information Document 82

16.1.3 Letter of Notification 90

16.1.4 Notice Board 91

16.1.5 Letter of notification of draft scoping report 93

16.1.6 Proof of Notifications: 94

16.1.7 Attendance registers of meetings held by CES during the EIA for the proposed R63 road upgrade 94

16.1.8 Meeting minutes: 96

16.1.9 Presentation at public meeting: 98

16.1.10 Interested and affected parties database 99

16.2 Appendix B: Impact Assessment 104

16.3 Appendix C: Layout 116

16.4 Appendix D: Mining Sites Designs 117

16.5 Appendix F: Specialist Volume 118

16.6 Appendix G: Environmental Management Programme 120

16.7 A3 Page Portrait 122

LIST OF TABLES

Table 8-1: Current land-use of borrow pits and quarry sites. 36
Table 8-2: Topography of borrow pits and quarry sites. 37
Table 9-1: Significance Rating Table 48
Table 9-2: Impact Severity Rating 48
Table 9-3: Overall Significance Rating 49
Table 12-1: High Impacts identified for the proposed mining sites sites 63
Table 12-2: Comparative Assessment of General Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact) 65
Table 12-3: Comparative Assessment of Ecological Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact) 66
Table 12-4: Comparative Assessment of Aquatic Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact) 66
Table 12-5: Comparative Assessment of Heritage and Paleontological Impacts occurring in all phases for the proposed borrow pit sites (+ = beneficial impact) 66
Table 12-6: Impacts associated with the No-go alternative 67

LIST OF FIGURES

Table Figure 7-1: Issues raised during meetings. 35
Figure 8-1: Land use map for the study area. 37
Figure 8-2: Topography of the study area 38
Figure 8-3: Geology of the study area 39
Figure 8-4: Rivers and wetlands in the vicinity of Quarry 4. 40
Figure 8-5: Rivers and wetlands in the vicinity of Quarry 11, BP 22, BP, 25, Quarry 18 and BP 26 40
Figure 8-6: Rivers and wetlands in the vicinity of BP 23 and Quarry 9. 41
Figure 8-7: SANBI vegetation map of the study area 42
Figure 8-8: Indigenous Forest Patches of the study area. 43
Figure 8-9: Terrestrial ECBCP map of the study area. 44
Figure 8-10: Aquatic ECBCP map for the study area. 44
Figure 8-11: Employment figures for the GKLM (StatsSA, 2011). 46

1 INTRODUCTION

1.1 BACKGROUND TO THE STUDY

The South African National Roads Agency SOC Ltd. (SANRAL) are proposing the Upgrade on National Route R63 Section 16 between N6 Bridge (Km 1.0) and the N2 past Komga (Km 43.64) within the Great Kei Municipality in the Eastern Cape Province.

SANRAL require 8 mining sites to supply the necessary rock material for the proposed road construction. Four quarries and 4 borrow pits have been identified within the general Komga area within the Great Kei Municipality, Eastern Cape. This Environmental Impact Assessment (EIA) assesses the eight mining sites only as the road upgrade will be assessed in a separate EIA process that has been submitted to the Department of Environmental Affairs (DEA).

In terms of Section 106 of the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002; MPRDA) SANRAL is exempted from the application for a Mining Application for the quarries and borrow pits but is not exempted from the application for environmental authorisation for the quarry and borrow pits. CES has been appointed by UWP Consulting (Pty) Ltd as the Environmental Assessment Practitioner (EAP) to undertake the EIA for the proposed quarries and borrow pits. The consultants responsible for the design, contract documentation and construction monitoring of the project are UWP Consulting (Pty) Ltd and SANRAL is the applicant in this instance.

1.2 ENVIRONMENTAL AUTHORISATION IN SOUTH AFRICA

The primary legislation regulating EIAs within South Africa is the National Environmental Management Act (NEMA, Act 107 of 1998). NEMA makes provision for the Minister of Environmental Affairs to identify activities which may not commence prior to authorisation from either the Minister or the provincial Member of the Executive Council (MEC). In addition to this, NEMA also provided for the formulation of regulations in respect of such authorisations.

The EIA regulations (2014, as amended) allow for a rigorous two-tiered approach for activities with listed in Listing Notice 2 of the NEMA regulations. This two-tiered approach includes both a Scoping and EIA process (Figure 1.1).

The project requires a **Full Scoping and EIA** due to the following triggers:

Government Notice	Activity Number	Activity Description
LN1	19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 10 cubic metres from a watercourse.
LN2	15	The clearance of an area of 20 hectares or more of indigenous vegetation.

The Department of Mineral Resources (DMR) is the competent authority that will consider this EIA.

After obtaining an Environmental Authorisation (EA) from the DMR, SANRAL may commence with mining after submission of an EMPr and financial provision for rehabilitation to DMR as regulated by the Minerals & Petroleum Resources Development Act (MPRDA, Act 28 of 2002).

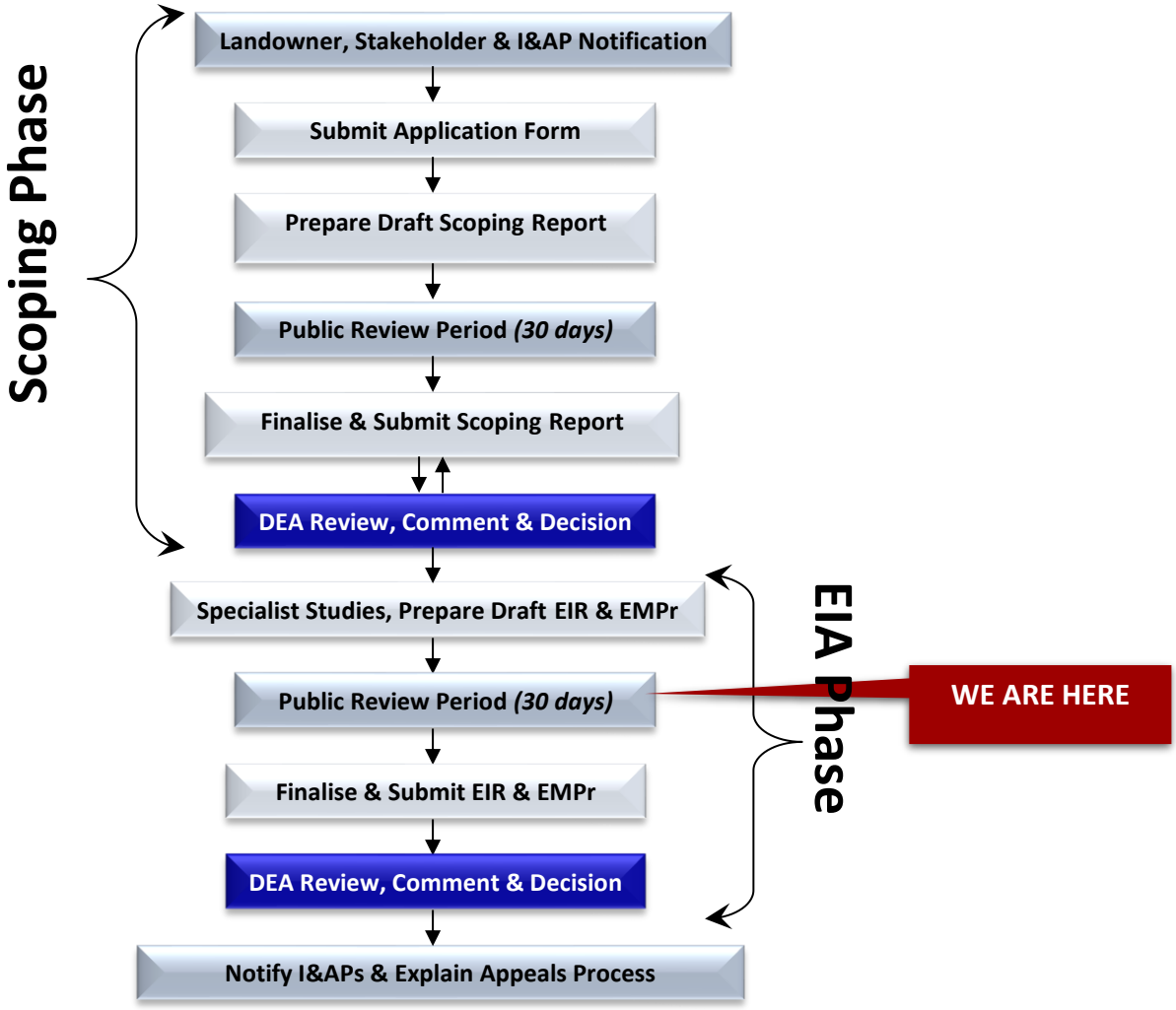


Figure 1.1 The EIA process.

1.3 SCOPING PHASE

The Scoping Phase is designed to determine the "scope" of the subsequent Environmental Impact Assessment (EIA), conducted in fulfilment of the application for authorisation. The overall aim of the Scoping Phase is to determine those environmental issues and impacts associated with the proposed quarry that require further investigation in an EIA. The purpose of scoping is therefore to identify:

- Issues;
- Impacts; and
- Alternatives

Also integral to the Scoping Phase is the initial public participation process (PPP). This process ensures that all possible interested and affected parties (I&APs) are informed of the proposed activity and are provided with an opportunity to comment and identify issues.

1.4 EIA PHASE

The Environmental Impact Assessment (EIA) is a comprehensive evaluation and study phase that addresses all the issues raised in the Scoping Phase. It is a substantial phase that has seven key objectives:

- Describe the biophysical and socio-economic environment that is likely to be affected by the proposed mining sites.
- Assess the significance of impacts that may occur from the proposed mining sites.
- Assess the alternatives proposed during the Scoping Phase.
- Provide details of mitigation measures and management recommendations to reduce the significance of impacts.
- Provide a framework for the development of the Environmental Management Programme (EMPr).
- Continue with the public participation process.

Specialist studies

Specialist studies are undertaken to provide a detailed and thorough examination of key issues and environmental impacts. Specialists gather relevant data to identify and assess environmental impacts that might occur on the specific component of the environment that they are studying (for instance waste management, air quality, noise, vegetation, water quality, pollution, waste management). Once completed, these studies are synthesised in, and presented in full as appendices to the Environmental Impact Report (EIR).

The Public Participation Process

The public participation process (PPP) initiated at the beginning of the Scoping Phase continues into the EIA Phase. Once again the PPP provides a platform from which all I&APs are able to voice their concerns and raise issues regarding the project.

Assessment of the Significance of Impacts

It is necessary to determine the significance, or seriousness, of any impacts on the natural or social environment. It is common practice in the EIA Phase to use a significance rating scale that determines the spatial and temporal extent, and the severity and certainty of any impact occurring, including impacts relating to any project alternatives. This allows the overall significance of an impact or benefit to be determined.

The overall intent of undertaking a significance assessment is to provide the competent authority with information on the potential environmental impacts and benefits, thus allowing them to make an informed, balanced and fair decision.

Mitigation Measures and Recommendations

Critical to any EIA is the recommendation of practical and reasonable mitigation measures and recommendations. These recommendations relate to the actions that are needed in order to avoid, minimise or offset any negative impacts from the mining sites.

Planning input

An effective EIA process should actively engage and contribute to the project planning process so as to mitigate environmental impacts through improved design and layout.

Environmental Impact Report

The above-mentioned tasks are synthesised in the EIR. This will allow the assessment of the relationship of environmental impacts to project actions, as well as to assess the overall significance of these impacts. The EIR will also provide sufficient information to allow the competent authority to make an informed decision.

1.5 Mining Right Application

SANRAL is exempted from the application for a Mining Right, but is not exempted from the application for Environmental Authorisation. The mining sites require an application for environmental authorisation in terms of NEMA (Act 107 of 1998) and in terms of the MPRDA (No. 28 of 2002). An application for environmental authorisation was submitted to DMR (DMR Ref. no.: *EC 30/5/1/3/3/2/1/000114BP EM*).

1.6 Nature and Structure of this EIA Report

This EIR fulfils the requirement of the EIA Regulations (2014, as amended in 2017) for the documentation of the EIR phase. The structure of this report is based on APPENDIX 3 of GNR No. 982, of the EIA Regulations (2014 as amended in 2017), which clearly specifies the required content of an Environmental Impact Assessment Report.

1.7 Assumptions and Limitations

This EIR is based on currently available information and, as a result, the following limitations and assumptions are implicit:

- The report is based on project information provided by the client.
- Descriptions of the natural and social environments are based on limited fieldwork, relevant specialist studies and available literature.

1.8 Mining Right Application

SANRAL is exempted from the application for a Mining Right for the mining sites, but is not exempted from the application for EA. The mining sites require an application for EA in terms of NEMA (Act 107 of 1998) and a mining authorisation in terms of the MPRDA (No. 28 of 2002). An application for environmental authorisation was submitted to DMR (DMR Ref. no.: *EC 30/5/1/3/3/2/1/000114BP EM*).

1.9 DETAILS AND EXPERTISE OF THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

In terms of APPENDIX 3(1)(a) of the EIA Regulations (2014) (as amended), an EIA Report must include –

(a) Details of–

(i) The EAP who prepared the report; and

(ii) The expertise of the EAP, including a curriculum vitae.

1.9.1 Details of the EAP

CES was established in 1990 as a specialist environmental consulting company. CES has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Plans (EMPs), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes. CES has been active in all of the above fields, and in so doing have made a positive contribution towards environmental management and sustainable development in the Eastern Cape, South Africa and many other African countries. We believe that a balance between development and environmental protection can be achieved by skilful, considerate and careful planning.

1.9.2 Expertise of the study team

Dr Alan Carter (EAP)
Alan is the executive of the CES East London Office. He holds a PhD in Marine Biology and is a certified Public Accountant, with extensive training and experience in both financial accounting and environmental science disciplines with international accounting firms in South Africa and the USA. He has 25 years' experience in environmental management and has specialist skills in sanitation, coastal environments and industrial waste. Dr Carter is registered as a Professional Natural Scientist under the South African Council for Natural Scientific Professions (SACNASP). He is also registered as an EAP by the Environmental Assessment Practitioners of South Africa (EAPSA).


SACNASP
South African Council for Natural Scientific Professions

herewith certifies that

Alan Robert Carter

Registration number: 400332/04

is registered as a

Professional Natural Scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003) in the following fields(s) of practice (Schedule 1 of the Act)

Environmental Science

Effective 31 August 2004 Expires 31 March 2019

President Executive Director


The Interim Certification Board for Environmental Assessment Practitioners of South Africa

Alan Robert Carter

was certified as an

ENVIRONMENTAL ASSESSMENT PRACTITIONER

on this 1st day of March 2012

Chairperson Secretary

Mr Roy de Kock (Project Manager)

Roy is a Principal Consultant holding a BSc Honours in Geology and an MSc in Botany from the Nelson Mandela Metropolitan University in Port Elizabeth. His MSc thesis focused on Rehabilitation Ecology using an open-cast mine as a case study. He has been working for CES since 2010, and is based at the East London branch where he focuses on Ecological and Agricultural Assessments, Geological and Geotechnical analysis, Environmental Management Plans, mining applications and various environmental impact studies. Roy has worked on numerous projects in South Africa, Mozambique and Malawi. Roy is SACNASP registered.

Ms Jaclyn Smith (Environmental Consultant)

Jaclyn Smith is an Environmental Consultant holding a BSc degree with majors in Geology and Environmental Science from Rhodes University and a BSc Honours degree in Geology from Nelson Mandela Metropolitan University. Jaclyn's honours thesis focused on the sediment disturbance depth over two beaches in Port Elizabeth. Jaclyn has over four years' experience as an environmental consultant and has undertaken various environmental impact studies and Environmental Management Plans.

Ms Thina Mgweba (Environmental Consultant)

Thina is an Environmental Consultant. Thina holds a B.Sc. in Environmental Science and Economics as well as a B.Sc. Honours degree in Environmental Science. Her honours thesis investigated the effects of climate change on the sustainability of resources in the Hamburg area and how local communities are affected by climate change. Thina has undertaken numerous Environmental Impact Assessments and Environmental Management Programmes. Thina's interest is in waste management and Integrated Environmental Management. She has been involved in various Integrated Environmental Management projects, and has undertaken numerous Integrated Waste Management Plans, Waste Licenses and Waste Operational Environmental Management Plans.

2 LOCATION OF ACTIVITY

In terms of APPENDIX 3(1)b of the EIA Regulations (2014, as amended), an EIA Report must include: –

b) The location of the development footprint of the activity, on the approved site as contemplated in the accepted scoping report, including –
- ***(i) The 21 digit Surveyor General code of each cadastral land parcel;***
- ***(ii) Where available, the physical address and farm name;***
- ***(iii) Where the required information in terms of (i) and (ii) is not available, the coordinates of the boundary of the property or properties;***

c) A plan which locates the proposed activity or activities applied for as well as the associated structures and infrastructure at an appropriate scale, or if it is-
- ***i. A linear activity, a description and coordinates of the corridor in which the proposed activity is to be undertaken***

The (4) proposed borrow pits and (4) quarries are located at various locations along the R63 between the N6 Bridge and the N2 east of Komga in the Great Kei Local Municipality (GKLM) (Figure 2.1 – Figure 2.2).

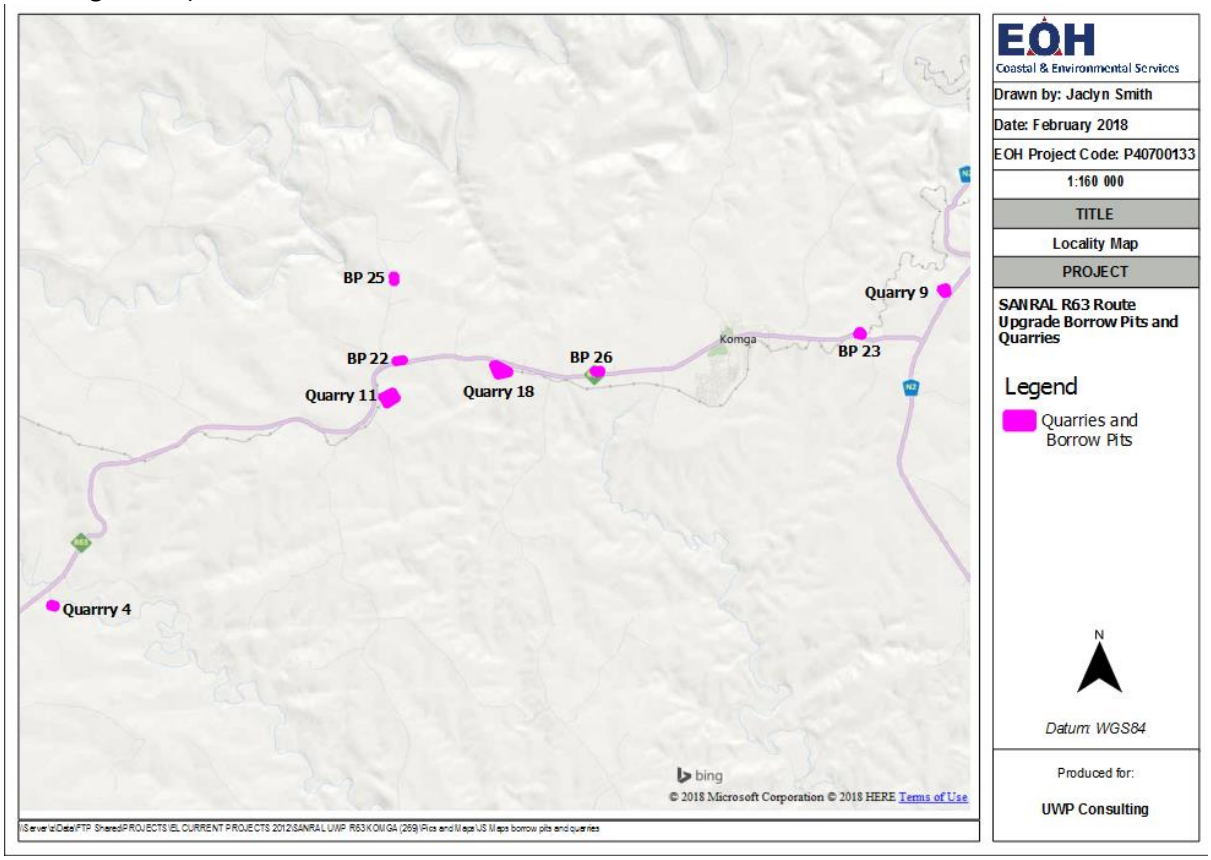
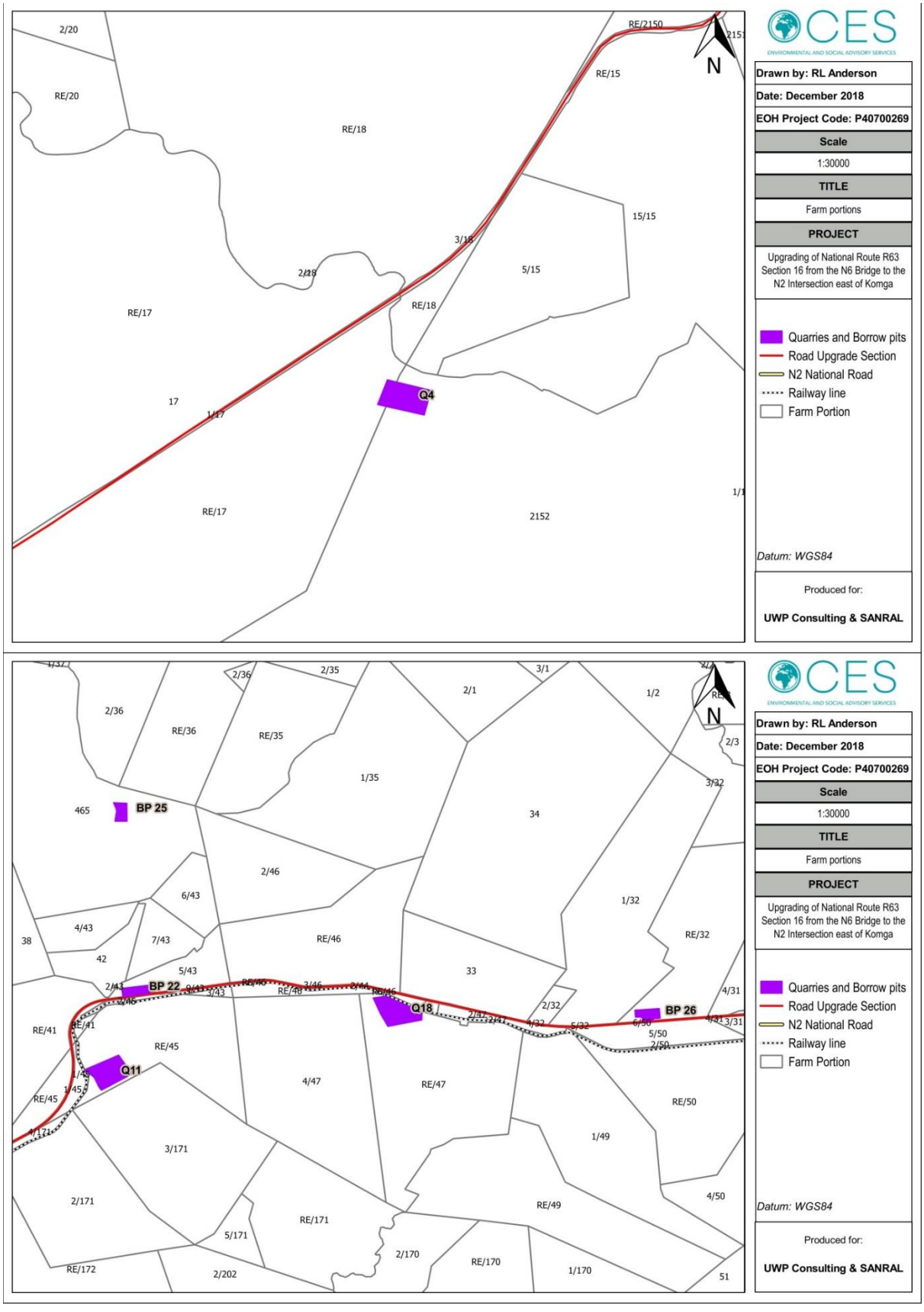


Figure 2.1. Locality map of the proposed borrow pit and quarry sites.


2/20
RE/20
RE/18
RE/2150
RE/15
N
15/15
3/18
2/18
5/15
RE/17
RE/18
Q4
17
1/17
RE/17
2152
Drawn by: RL Anderson
Date: December 2018
EOH Project Code: P40700269
Scale
1:30000
TITLE
Farm portions
PROJECT
Upgrading of National Route R63 Section 16 from the N6 Bridge to the N2 Intersection east of Komga
Quarries and Borrow pits
Road Upgrade Section
N2 National Road
Railway line
Farm Portion
Datum: WGS84
Produced for:
UWP Consulting & SANRAL
2/36
2/35
2/1
3/1
1/2
RE/36
RE/35
1/35
2/3
3/32
465
BP 25
34
2/46
6/43
1/32
4/43
38
7/43
RE/46
RE/32
42
5/43
33
2/41
BP 22
3/43
RE/40
3/46
RE/46
Q18
4/31
2/32
BP 26
RE/41
RE/45
5/50
Q11
4/47
RE/47
RE/50
RE/45
1/49
3/171
4/50
2/171
RE/49
RE/171
5/171
2/170
RE/172
2/202
RE/170
1/170
51

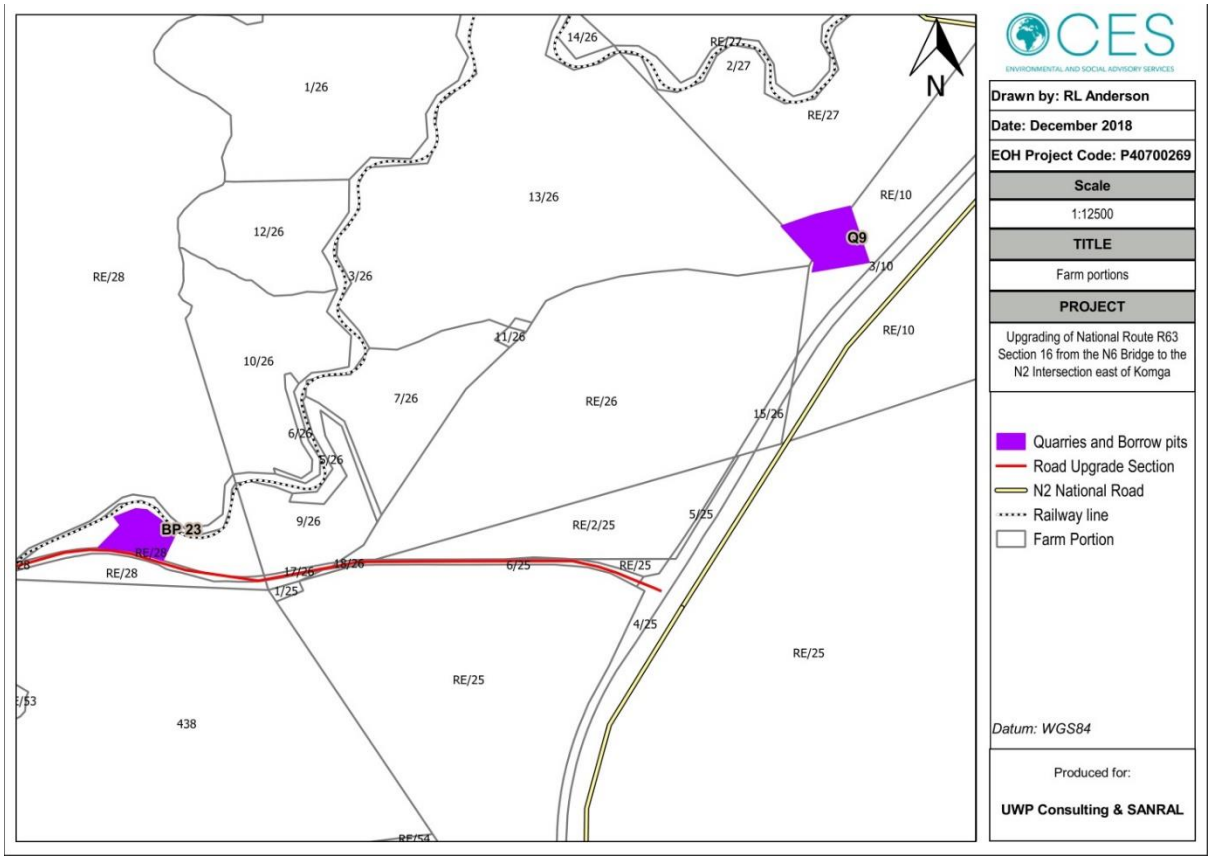


Figure 2.2. Close-up maps of the proposed borrow pit and quarry sites showing along the R63 Section 16.

Property details and the 21 Digit Surveyor General (SG) code of the affected areas are illustrated in Table 2.1 below. Coordinates of the proposed borrow pit and quarry sites are illustrated in Table 2.2 to Table 2.9. The study area for this report is the planned borrow pit and quarry sites and a distance of 500m surrounding them.

Table 2.1: Property details

Province	Eastern Cape
District Municipality	Amathole District Municipality (ADM)
Local Municipality	Great Kei Local Municipality (GKLM)

Borrow pit 25:

Farm Name:	Gadzooks (Farm No. 465)
Application area (Ha)	4.23
Magisterial district:	EC123
Distance and direction from nearest town	Borrow pit 25 is situated approximately 15km north west of Komga.
21 digit Surveyor General Code for each farm portion	C04000000000046500000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2

right, Bulk Sampling, Production Right, Exploration Right, Reconnaissance permit, Technical co-operation permit, Additional listed activity)	intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.2: Coordinates of the corner points of borrow pit 25.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°33'30.59"S	27°46'1.06"E
32°33'30.88"S	27°46'7.74"E
32°33'39.73"S	27°46’7.94"E
32°33'39.74"S	27°46'1.79"E
32°33'34.75"S	27°46'2.54"E

Figure 2.1: A view of portion of the borrow pit 25 area.

Borrow pit 22:

Farm Name:	Sonskyn (Portion 2 & 5 of Farm 42)
Application area (Ha)	4.57
Magisterial district:	EC123
Distance and direction from nearest town	Borrow pit 22 is situated 12km west of the town of Komga.
21 digit Surveyor General Code for each farm portion	C04000000000004200002 C04000000000004200005
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.3 Coordinates of the corner points of borrow pit 22.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°35'1.88"S	27°46'5.03"E
32°35'0.29"S	27°46'18.41"E
32°35'4.52"S	27°46'19.04"E
32°35'6.19"S	27°46'5.81"E

Figure 2.2: A view of portion of borrow pit 22 area.

Borrow pit 26:

Farm Name:	Murrayfield (Portion 1 of Farm 32)
Application area (Ha)	4.86
Magisterial district:	EC123
Distance and direction from nearest town	Borrow pit 26 is situated 5km west of Komga.
21 digit Surveyor General Code for each farm portion	C04000000000003200000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.4 Coordinates of the corner points of borrow pit 26.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°35'12.62"S	27°50'17.66"E
32°35'11.76"S	27°50'29.80"E
32°35'16.64"S	27°50'30.27"E
32°35'16.94"S	27°50'26.77"E
32°35'17.65"S	27°50'26.75"E
32°35'18.06"S	27°50'21.55"E
32°35'16.62"S	27°50'21.38"E
32°35'16.06"S	27°50'20.58"E
32°35'16.14"S	27°50'17.94"E

Figure 2.3: A view of borrow pit 26.

Borrow pit 23

Farm Name:	Lambrook (Remaining extent of Farm 28)
Application area (Ha)	4.58
Magisterial district:	EC123
Distance and direction from nearest town	Borrow Pit 23 is situated 5km east of the Town of Komga.
21 digit Surveyor General Code for each farm portion	C04000000000002800000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity.	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental

(Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.5 Coordinates of the corner points of borrow pit 23.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°34'31.35"S	27°55'54.37"E
32°34'30.05"S	27°55'57.75"E
32°34'30.17"S	27°55'59.58"E
32°34'31.90"S	27°56'1.93"E
32°34'34.30"S	27°56'3.88"E
32°34'38.15"S	27°56'2.09"E
32°34'36.72"S	27°55'57.12"E
32°34'36.11"S	27°55'52.00"E
32°34'32.55"S	27°55'55.31"E

Figure 2.4: A view of a portion of borrow pit 23.

Quarry 4

Farm Name:	Gonbridge (Erf 2152 and Portion 17)
Application area (Ha)	4.08
Magisterial district:	EC124
Distance and direction from nearest town	Quarry 4 is situated on approximately 29km west of the town Komga approximately and is accessible through a gravel road off the R63.
21 digit Surveyor General Code for each farm portion	C03800000000215200000 C03800000000001700000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. **(Indicate Mining Right, Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)**	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.6. Coordinates of quarry 4.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°39'22.57"S	27°38'46.77"E
32°39'24.78"S	27°38'55.73"E
32°39'29.86"S	27°38'54.40"E
32°39'27.71"S	27°38'44.85"E

Figure 2.5: A view of portion Quarry 4.

Quarry 11

Farm Name:	Draaibosch (Erf 45)
Application area (Ha)	
Magisterial district:	EC123
Distance and direction from nearest town	New Quarry 11 is situated 13km west of Komga and is accessible off a gravel road off the R63.
21 digit Surveyor General Code for each farm portion	C04000000000004500000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.7: Coordinates of corner points of new quarry 11.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°35'34.73"S	27°46'3.62"E
32°35'43.96"S	27°46'10.36"E
32°35'52.03"S	27°45'55.29"E
32°35'45.70"S	27°45'51.74"E
32°35'41.84"S	27°45'47.00"E

Figure 2.6: A view of portion of Quarry 11.

New Quarry 18

Farm Name:	Prosdale (Erf 47)
Application area (Ha)	17.25
Magisterial district:	EC123
Distance and direction from nearest town	Quarry 18 is situated 8km west of the town of Komga.
21 digit Surveyor General Code for each farm portion	C04000000000004700000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling,	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality

Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	(ADM), in the Eastern Cape Province.

Table 2.8 Coordinates of the corner points of quarry 18.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°35'6.44"S	27°48'8.84"E
32°35'5.67"S	27°48'15.29"E
32°35'13.54"S	27°48'32.96"E
32°35'17.49"S	27°48'32.96"E
32°35'20.63"S	27°48'16.14"E

Figure 2.7: A view of portion of new quarry 18.

Quarry 9

Farm Name:	Farm 26
Application area (Ha)	8.85
Magisterial district:	EC123
Distance and direction from nearest town	New Quarry 9 is situated approximately 5.0km west of Komga. The borrow pit is accessed off the N2.
21 digit Surveyor General Code for each farm portion	C04000000000002600000
Locality map	**Figure 2.1 and Appendix B**
Description of the overall activity. (Indicate Mining Right, Mining Permit, Prospecting right, Bulk Sampling, Production Right, Exploration Right, Reconnaisance permit, Technical co-operation permit, Additional listed activity)	The South African National Roads Agency Soc. Ltd. (SANRAL) is applying for environmental authorisation, from the Department of Environmental Affairs (DEA), for the upgrade on National Route R63 of Section 16 between the N6 bridge (km 1.0) and the N2 intersection approximately 5km east of Komga (km 43.63) within the Amathole District Municipality (ADM), in the Eastern Cape Province.

Table 2.9 Coordinates of corner points of Quarry 9.

Latitude (S) (DDMMSS)	Longitude (E) (DDMMSS)
32°33'45.89"S	27°57'38.67"E
32°33'43.94"S	27°57'44.04"E
32°33'42.77"S	27°57'49.52"E
32°33'51.53"S	27°57'52.50"E
32°33'53.06"S	27°57'43.51"E
32°33'51.55"S	27°57'43.84"E

Figure 2.8: A view of portion of new quarry

3 PROJECT DESCRIPTION

In terms of APPENDIX 3(1)d of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include -

d) A description of the scope of the proposed activity, including –
- **(i) All listed and specified activities triggered and being applied for;**
- **(ii) A description of the associated structures and infrastructure related to the development.**

3.1 DESCRIPTION OF THE PROPOSED ACTIVITY

UWP Consulting (Pty) Ltd was appointed by SANRAL to undertake the design, contract documentation and construction monitoring for the upgrading of National R63 Section 16 between the N6 Bridge (km 1.0) and the N2 intersection on the eastern side of Komga (km 43.64) within the Great Kei Local Municipality.

Four (4) borrow pits and four (4) quarries are required to supply the necessary material for the upgrading of the R63 in this section. The eight (8) sites have been identified at various locations between the N6 Bridge and the eastern side of Komga.

Table 3.1: Area and volume of the borrow pits and quarries.

Activity	Area (hectare)							
Mining area	Borrow pit 25	Borrow pit 22	Borrow pit 26	Borrow pit 23	Quarry 4	New Quarry 11	New Quarry 18	New Quarry 9
Fenced area (ha)	4.23	4.57	4.86	4.58	4.08	16.67	17.25	6.85
Mining area (ha)	2.68	2.74	3.04	2.5	2.27	9.64	10.53	3.74
Total capacity (m^3)	53 000	60 000	110 100	109 000	264 000	1 262 120	1 918 240	465 800

Refer to Appendix B for the layout plans of the borrow pits and quarries.

3.2 LISTED ACTIVITIES TRIGGERED

The proposed quarry triggers the need for a **Full Scoping and EIA** process under the NEMA Regulations (2014 as amended) in terms of Listing Notices 1 and 2, respectively. The listed activities that have been applied for are provided in Table 3.2 below.

Table 3.2: Listed activities triggered by the proposed borrow mining sites.

Government Notice	Activity Number	Activity Description	Relevance to this project
LN1	19	The infilling or depositing of any material of more than 10 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit,	• Quarry 4 will require an access road to be built from the R63 to quarry site which will involve the construction of a culvert within a watercourse.

Government Notice	Activity Number	Activity Description	Relevance to this project
		pebbles or rock of more than 10 cubic metres from a watercourse.	• The mining sites will involve the movement of material within non-perennial watercourses and water storage dams.
LN2	15	The clearance of an area of 20 hectares or more of indigenous vegetation.	• The clearance of an area of 20 hectares or more of indigenous vegetation. The cumulative clearance of more than 20 hectares of indigenous vegetation will be required for the 8 x mining sites.

4 RELEVANT LEGISLATION

In terms of APPENDIX 3(1) of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include –

e) A description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context.

4.1 RELEVANT LEGISLATION AND GUIDELINES USED IN THE COMPILATION OF THIS SCOPING REPORT

The table below (Table 4.1) summarises the legislation and policy guidelines that are relevant to the proposed quarries and borrow pits.

Table 4.1: Environmental legislation considered in the preparation this Report.

Title of Environmental Legislation, Policy or Guideline	Implications for the proposed borrow pits and quarries
Constitution Act (108 of 1996)	• Obligation to ensure that the borrow pits and quarries will not result in pollution and ecological degradation; and • Obligation to ensure that the proposed borrow pits and quarries are ecologically sustainable, while demonstrating economic and social development.
National Environmental Management Act (NEMA) (107 of 1998)	• The developer must be mindful of the principles, broad liability and implications associated with NEMA and must eliminate or mitigate any potential impacts. • The developer must also be mindful of the principles, broad liability and implications of causing damage to the environment. • The developer must also comply with the EIA Regulations (2014) in the terms of the Act which specifies when an environmental authorisation is required and the nature of the EIA process.
Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)	• The purpose of the Act is to regulate the prospecting for and the optimal exploitation, processing and utilization of minerals; to regulate the orderly utilization and the rehabilitation of the surface of land during and after prospecting and mining operations; and to provide for matters connected therewith. • SANRAL is exempted from the application for a Mining Permit/Right, but is not exempted from an application for Environmental Authorisation. • Any activities requiring extraction of sand or hard rock for construction purposes will require the submission of an application to DMR for Environmental Authorisation.
National Environmental Management: Waste Act (59 of 2008)	• The proponent must ensure that all activities associated with the project address waste related matters in compliance with the requirements of the Act.

Title of Environmental Legislation, Policy or Guideline	Implications for the proposed borrow pits and quarries
National Water Act (36 of 1998)	• Appropriate measures must be taken to prevent the pollution of watercourses. • Riparian zones must be protected. • Any mining activity that takes place within a watercourse or within 500 m of a wetland will require a water use licence (section 21(c) and (i) of the National Water Act).
National Heritage Resources Act (Act No. 25 of 1999)	• The Act requires all developers (including mines), to undertake cultural heritage studies for any development exceeding 5000 m^2 in size. It also provides guidelines for impact assessment studies to be undertaken whenever cultural resources may be destroyed by development activities. • ECPHRA/ SAHRA needs to be informed of the project. • Should heritage resources be identified during mining, appropriate measures must be undertaken to involve ECPHRA/ SAHRA and to protect these resources.
Mine Health and Safety Act (Act No. 29 of 1996)	• The key objectives of the Act are to provide for the health and safety of persons at work and in connection with the use of plants and machinery. • This Act will be applicable during all phases of the project and therefore necessary measures should be taken to ensure compliance.
Air Quality Act (Act No. 39 of 2004)	• The purpose of this Act is to provide for national norms and standards regulating air quality monitoring, management and control. • This Act will be applicable during all phases of the project. The necessary measures must be taken to ensure compliance.
Conservation of Agricultural Resources Act (No. 43 of 1983)	• If any declared weed and/or invader species listed in terms of this Act is present on site, it must be removed.
National Environmental Management: Biodiversity Act (10 of 2004) – Alien and Invasive Species Regulations of 2014	

At this stage in the EIA process, the above list should not be regarded as complete or exhaustive, and it is probable that additional legislative requirements will be identified as the process progresses.

4.2 Relevant Policy

The following policies are relevant to the proposed application for mining sites along the R63 Section 16 between the N6 bridge ant the N2 intersection.

4.2.1 National Policy

National Development Plan (NDP)

The NDP (also referred to as Vision 2030) is a detailed plan produced by the National Planning Commission in 2011 that is aimed at reducing and eliminating poverty in South Africa by 2030. The NDP represents a new approach by Government to promote sustainable and inclusive development in South Africa, promoting a decent standard of living for all, and includes key focus areas, such as improvement of roads and transport facilities.

National Biodiversity Strategy and Action Plan (NBSAP)

The NBSAP set out a framework and a plan of action for the conservation and sustainable use of South Africa's biological diversity and the equitable sharing of benefits derived from this use. The strategy that was developed set out the strategic objectives, outcomes and activities needed to achieve the overarching goals of conservation, sustainable use and equity. The resulting implementation plan set out high priority activities which are needed to achieve the objectives, which included the identification of lead agents, partners, targets and indicators. Long-term (15 year) targets were also set for the strategic objectives. The strategic objectives that were set out are as follows:

1. An enabling policy and legislative framework integrates biodiversity management objectives into the economy.
2. Enhanced institutional effectiveness and efficiency ensures good governance in the biodiversity sector.
3. A network of conservation areas conserves a representative sample of biodiversity and maintains key ecological processes across the landscape and seascape
4. Human development and well-being is enhanced through sustainable use of biological resources and equitable sharing of the benefits
5. Integrated terrestrial and aquatic management across the country minimises the impacts of threatening processes on biodiversity, enhances ecosystem services and improves social and economic security

Mitigation measures will be developed for the proposed borrow pits and quarries that will ensure that the objectives set out in the NBSAP are not compromised.

4.2.2 Provincial Policy

Eastern Cape Biodiversity Conservation Plan (ECBCP)

The Eastern Cape Biodiversity Conservation Plan (ECBCP, 2007) was a first attempt at detailed, low-level conservation mapping for land-use planning purposes. Specifically, the aims of the Plan were to map Critical Biodiversity Areas (CBAs) through a systematic conservation planning process. The current biodiversity plan includes the mapping of priority aquatic and terrestrial features, land-use pressures, CBAs and develops guidelines for land and resource-use planning and decision-making. The main output of the ECBCP is the identification of Critical Biodiversity Areas (CBAs) (also called Biodiversity Land Management Classes (BLMC)) which provides recommended land use objectives.
The proposed quarries and borrow pits are located in CBA 1 and 2 areas (as illustrated in Figure 8.9 in Section 8.5.1) and appropriate mitigations measures have been developed to ensure that the all possible impacts to the biodiversity in the proposed project area have been minimised.

4.3 MUNICIPAL BY-LAWS AND PLANNING

4.3.1 The GKLM IDP (2013/2014)

The Great Kei Local Municipality (GKLM) and Amathole District Municipality (ADM) IDP's highlight the fact that there are serious road infrastructure challenges in the GKLM. Some of the issues mentioned are that roads are in a poor condition and existing roads are not safe. Therefore there is a need for quarries and borrow pits to supply material for the road infrastructure.

5 PROJECT NEED AND DESIRABILITY

In terms of Section APPENDIX 3(1) of the EIA Regulations (2014) (as amended), an EIA Report must include –

f) A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report.

The proposed borrow pits and quarries will be used for construction material for the upgrade of National R63 Section 16 between the N6 Bridge (km 1.0) and the N2 intersection on the eastern side of Komga (km 43.64). The road upgrade will improve road safety and conditions of the road.

The need and desirability of this project is supported by National, Provincial and Municipal policy documents.

- The road upgrade speaks directly to the National Development Plan for 2030. The vision statement of the NDP specifically mentions transport and improvement of roads.

- The Eastern Cape Vision 2030 Provincial Development Plan (PDP) emphasises the challenge of road networks in the Eastern Cape and explains that roads are severely stressed and deteriorating. The PDP continues to explain that there are existing plans for the major arterial routes in the province and focus should be given to the construction of feeder and secondary roads. This is to ensure that no village is without a well-maintained connection to national roads.

- The GKLM IDP (2016/2017) highlights the need for an improvement in the safety and condition of roads in the local municipality.

6 PROJECT ALTERNATIVES

In terms of Section APPENDIX 3(1) of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include –

(g) A motivation for the preferred development footprint within the approved site as contemplated in the approved scoping report;

(h) A full description of the process followed to reach the proposed development footprint within the approved site as contemplate in the approved scoping report, including –

(i) Details of the development footprint alternatives considered;

(ix) If no alternative development footprints for the activity were investigated, the motivation for not considering such; and

(x) A concluding statement indicating the location preferred alternative development footprint within the approved site as contemplated in the accepted scoping report.

One of the objectives of an EIA is to investigate alternatives to the proposed project. There are two types of alternatives: Fundamental Alternatives and Incremental Alternatives.

6.1 REASONABLE AND FEASIBLE ALTERNATIVES

Alternatives should include consideration of all possible means by which the purpose and need of the proposed activity could be accomplished. The no-go alternative must also in all cases be included in the assessment phase as the baseline against which the impacts of the other alternatives are assessed. The determination of whether site or activity (including different processes etc.) or both is appropriate needs to be informed by the specific circumstances of the activity and its environment.

"Alternatives", in relation to a proposed activity, refers to different means of meeting the general purpose and requirements of the activity, which may include alternatives to; -

a) the property on which or location where it is proposed to undertake the activity.
b) the type of activity to be undertaken.
c) the design or layout of the activity.
d) the option of not implementing the activity.

6.2 FUNDAMENTAL ALTERNATIVES

Fundamental alternatives are developments that are totally different from the proposed project description and usually include the following:

- Alternative property or location where it is proposed to undertake the activity.
- Alternative type of activity to be undertaken.
- Alternative technology to be used in the activity.

6.3 INCREMENTAL ALTERNATIVES

Incremental alternatives relate to modifications or variations to the design of a project that provide different options to reduce or minimise environmental impacts. There are several incremental alternatives that can be considered, including:

- Alternative design or layout of the activity.
- Alternative technology to be used in the activity.
- Alternative operational aspects of the activity

6.4 NO-GO DEVELOPMENT

The EIA process is obligated to assess the status quo (i.e. the "No-Go" option). The No-Go alternative provides the assessment with a baseline against which predicted impacts resulting from the proposed development may be compared. A ''No-Go" alternative has been assessed for the proposed mining sites.

6.5 ANALYSIS OF ALTERNATIVES

A summary of the alternatives assessed is provided in Table 6.1 below. Table 6.2 on the following page illustrates the methodology used to assess the identified alternatives. The table assesses the advantages and disadvantages, and provides further comments on the selected alternatives.

Table 6.1: A summary of the alternatives that were assessed.

Alternative level	Alternative	Description
Property or location	1 (Preferred alternative)	Current proposed sites for each borrow pit and quarry.
	2	None identified.
Types of technology	1 (Preferred alternative)	Opencast mining using excavators and transporting material using trucks.
	2	None chosen because the preferred mining method is a proven and feasible method for this type of material.
Layout alternative	1 (Preferred alternative)	Current proposed layout with processing onsite.
	2	No processing to occur on site, material to be transported to another location where processing will take place.
No-go option	1	Current land use of the proposed sites is mainly rural grazing and agricultural land with the exception of borrow pit 22, borrow pit 25, borrow pit 26 and borrow pit 23, Quarry 4 and Quarry 9 which are existing previously mined areas.

Table 6.2: The alternatives for the proposed mining sites.

Alternative level	Alternatives	Advantages	Disadvantages	Reasonable and feasible	Further assessment	Comment
Property or location (Fundamental location alternative)	**Alternative location 1** - Current proposed site (preferred alternative).	– The geology in these locations is ideal for the type of material required. – Some of the quarry and borrow pit sites have already been impacted by mining activities. – The sites are located in close proximity to the road portion that will be upgraded.	– Loss of rural grazing/ agricultural land. – Removal of indigenous vegetation. – Watercourse affected. – Dams that have developed from previous mining activities affected.	YES	YES	The main determining factors for selecting the proposed location were:- – Appropriate geology of the area. – Location of the sites relative to the road upgrade site. – A portion of some of the sites has already been impacted on by mining activities.
	Alternative location 2 – None identified.	N/A	N/A	N/A	N/A	– Alternative locations for the proposed quarry are limited and probably not reasonable or feasible due to inappropriate geology. – The appropriate geology was considered a

Alternative level	Alternatives	Advantages	Disadvantages	Reasonable and feasible	Further assessment	Comment
						critical aspect. – No alternative location will be assessed in the impact assessment.
Type of technology This refers to the fundamental technology options required to operate the quarry.	**Alternative technology 1** – Opencast mining using excavators and transporting material using trucks with processing occurring onsite (preferred alternative).	– Time effective, i.e. shorter time required for processing material resulting in lower environmental impact. – Cost effective.	– Increase in noise levels on site and possible disturbance to surrounding areas. – Dust disturbance the surrounding areas especially during windy conditions.	YES	YES	This is the preferred and feasible mining method. This is a proven mining method for this type of material.
	Alternative technology 2 – No processing occurring on site, material to be transported to an alternative location for processing.	– Less noise and dust generated on site.	– Higher cost to have a crushing and screening area offsite. – Materials will have to be transported from the quarry site to be processed.	YES	NO	This mining method will not be assessed further in the impact assessment process due to the high costs involved in transporting material to an offsite crusher.
Layout alternative Incremental alternative.	**Alternative layout 1** – Current proposed layout with processing occurring on site	– The proposed layout of the borrow pits and quarries is ideal	– Smaller mining area available.	YES	YES	This is the preferred layout and will be assessed further in the impact assessment.

Alternative level	Alternatives	Advantages	Disadvantages	Reasonable and feasible	Further assessment	Comment
	(preferred alternative).	based on geological conditions.				The proposed layout has been subjected to environmental screening.
	Alternative layout 2 – N/A	– N/A.	– N/A	NO	NO	Will not be assessed further in the impact assessment process.
No-go option This refers to the current status quo and the risks and impacts associated with it.	Current land use of the proposed site is rural grazing and agricultural/cultivated land.	- Area will not be disturbed by mining operations. - Less damage to the environment.	– Less job creation. – Material from more distant locations will have to be sourced for upgrading the R63. – Will negatively affect socio-economic development in the region.	YES	YES	Will be assessed further in the impact assessment process.

7 PUBLIC PARTICIPATION

In terms of APPENDIX 3(1) of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include –

h) A full description of the process followed to reach the proposed development footprint within the approved site, including –

(ii) Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;

(iii) A summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them.

7.1 NOTIFICATION OF INTERESTED AND AFFECTED PARTIES

7.1.1 Public Participation

Public consultation is a legal requirement throughout the EIA process. The proponent is required to conduct public consultation throughout both the Scoping and EIR phase. Formal EIA documents are required to be made available for public review and comment by the proponent, these include the Project Brief, Scoping Report and Terms of Reference for the EIA, the draft and final EIA reports and the decision of the Competent Authority. The method of public consultation to be used depends largely on the location of the development and the level of education of those being impacted on by the project. Required means of public consultation include:

- Site notice/s;
- Newspaper advertisements;
- Letter of Notification to affected landowner(s), stakeholders and registered I&APs;
- Background Information Document (BID) distribution;
- Focus group site meeting (Attendance register and meeting minutes); and
- Authority and Stakeholder engagement (DMR, DEA, DEDEAT, DWS).

7.1.2 Newspaper advertisement

A newspaper advert was placed in the Daily Dispatch on the February 2019. A copy of the advert as well as proof of advertisement can be found in Appendix A. This advert included notification that a mining environmental authorisation will be lodged with DMR for the proposed mining sites. This advert provided detail about the proposed project and provided Interested & Affected parties with an opportunity to register and comment on the draft Scoping Report.

7.1.3 On-site Notice

Notice boards were placed along fences at each borrow pit and quarry site. (See Appendix A).

7.1.4 Stakeholders and I&APs

Stakeholders were identified based on their potential interest in the project. These stakeholders were contacted either via e-mail or telephone for comment and were sent a Letter of Notification (LoN) and a Background Information Document (BID). A full list of stakeholders and I&APs (who

registered or attended public meetings) is available in Appendix A. Any new I&APs that register during the EIR phase will be added to this list. These stakeholders were notified of the EIA process for the mining sites as well as of the availability of the draft and final Scoping Reports for public review. **No comments were received on the Scoping Report**.

During the EIA for the mining sites certain stakeholders were identified based on their potential interest in the project. These stakeholders were contacted either via e-mail or telephone for comment and were sent a Letter of Notification (LoN) and a BID. The mining sites were discussed in the public meetings about the proposed project issues raised by the community were incorporated in the Final Scoping Report. A full list of stakeholders and I&APs is available in Appendix A. These stakeholders were notified throughout the EIA process as well as of the availability of the final scoping report for public review. No comments were received on the final Scoping Report. The final Scoping was submitted to DMR in March 2019.

7.1.5 Background Information Document

A BID was distributed to the identified stakeholders and I&APs (See Appendix A).

7.1.6 Proof of Notification

Stakeholders and I&APs were notified via email/registered mail about the proposed mining sites (See Appendix A).

7.1.7 Issues raised by stakeholders and I&APs

The Issues and Response Trail is updated throughout the EIA process and will include all comments received from both the Scoping and EIR stage. No comments were received to date.

Table 7.1: Issues raised during meetings.

Date	Name	Issue/Comment	Response by	Response
30-Nov-18	Bridget Carr	The proposed access road to the quarry runs directly through the farm and raised a large number of concerns e.g. security, dust, poaching, theft, waterlines. An alternative entrance would be preferable as was previously done.	Roy de Kock from CES	The EIA does address all these issues. Fortunately these are all temporary impacts that will only occur during construction phase
		Secondly, the previous blasting had a negative effect on our borehole which is our sole water supply.		There will be blasting.
06-Dec-18	Public meeting	Can you guarantee that this project will not result in any unwanted unrests in the Komga area?	Roy de Kock from CES	No, unfortunately we cannot guarantee no unrests. We can however ensure that we have all agreements in place with local communities and their leaders prior to commencement of construction. This should reduce the risk of unrests relating to the project when construction starts.
		Please add Cllr Z Tstati from Ward 7 to the I&AP list	Roy de Kock from CES	Done

8 DESCRIPTION OF THE ENVIRONMENT

In terms of Section APPENDIX 3(1) of the EIA Regulations (2014) (as amended in 2017), a Scoping Report must include –

h) A full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including –

(iv) The environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

8.1 THE BIOPHYSICAL ENVIRONMENT

8.1.1 Current land use

The general study area falls within unimproved grassland, thicket, bushland and cultivated land.

Table 8-1: Current land-use of borrow pits and quarry sites.

Borrow pit and quarry site	Land use type affected by site
Borrow pit 25	Unimproved grassland
Borrow pit 22	Unimproved grassland
Borrow pit 26	Unimproved grassland
Borrow pit 23	Thicket and bushland and cultivated: temporary – commercial dryland
Quarry 4	Unimproved grassland
Quarry 11	Unimproved grassland
Quarry 18	Thicket and bushland and cultivated: temporary – commercial dryland
Quarry 9	Unimproved grassland

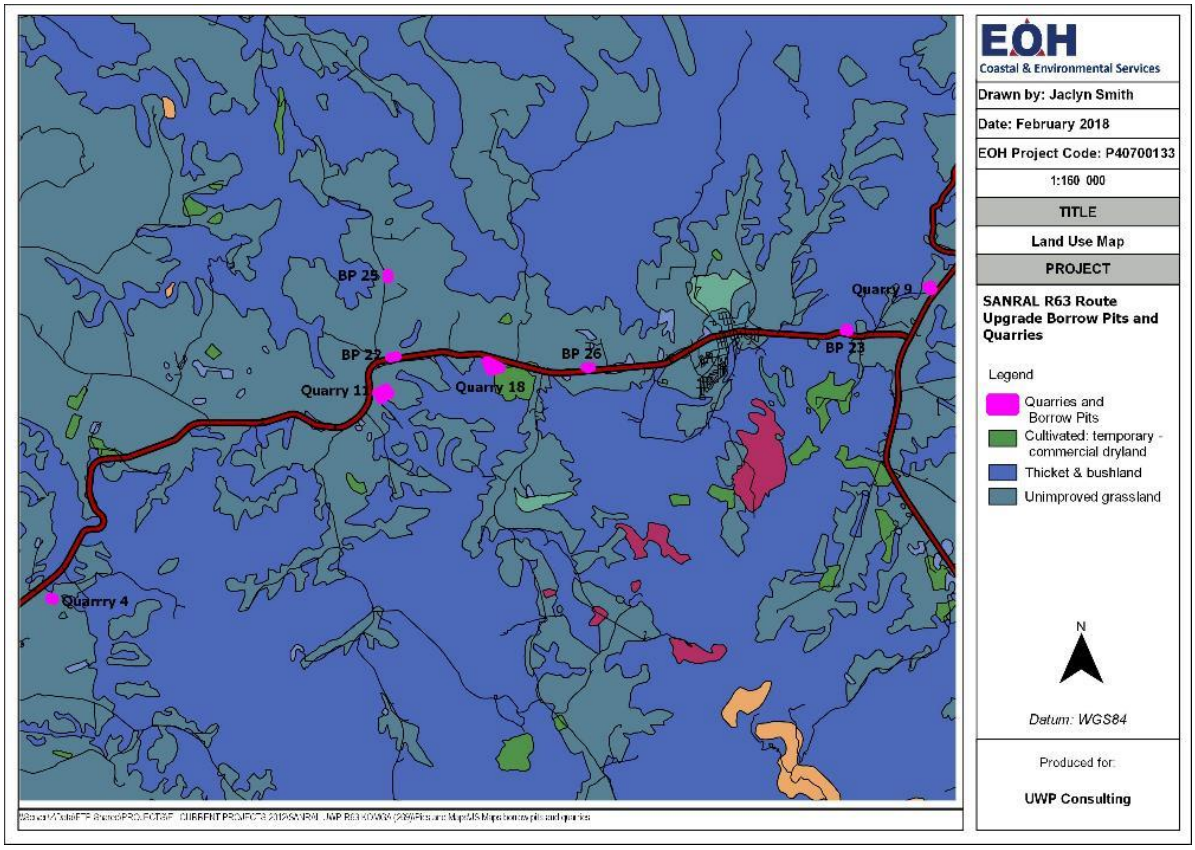


Figure 8-1: Land use map for the study area.

8.1.2 Climate

The Komga area normally receives about 547mm of rain per year, with most rainfall occurring mainly during summer. Komga receives the lowest rainfall (8mm) in July and the highest (81mm) in March. The average midday temperatures range from 19.3°C in July to 25.8°C in February. The region is the coldest during July when temperatures drop to 6.6°C on average during the night.

8.1.3 Topography

The local region primarily consists of undulating plains to moderately steep sloped landscapes sometimes with shallow, incised drainage valleys.

The topography for the borrow pits and quarries is as follows:

Table 8-2: Topography of borrow pits and quarry sites.

Borrow pit 25	Gentle slope towards the south east and west with elevations ranging from 726 masl to 733 masl.
Borrow pit 22	Gentle slope towards the north east and south east with elevations ranging from 731 masl to 753 masl.
Borrow pit 26	Gentle slope towards the north west with elevations ranging from 675 masl to 687 masl.
Borrow pit 23	Slope towards the north east with elevations ranging from 593 masl to 586 masl.
Quarry 4	Gentle slope towards the north east with elevations ranging from 549 masl to 570 masl.

Quarry 11	Hilltop with elevations ranging from 754 masl to 740 masl towards the east.
Quarry 18	Slope towards the south west with elevations ranging from 706 masl to 661 masl.
Quarry 9	Gentle slope towards the north west with elevations ranging from 634 masl to 618 masl.

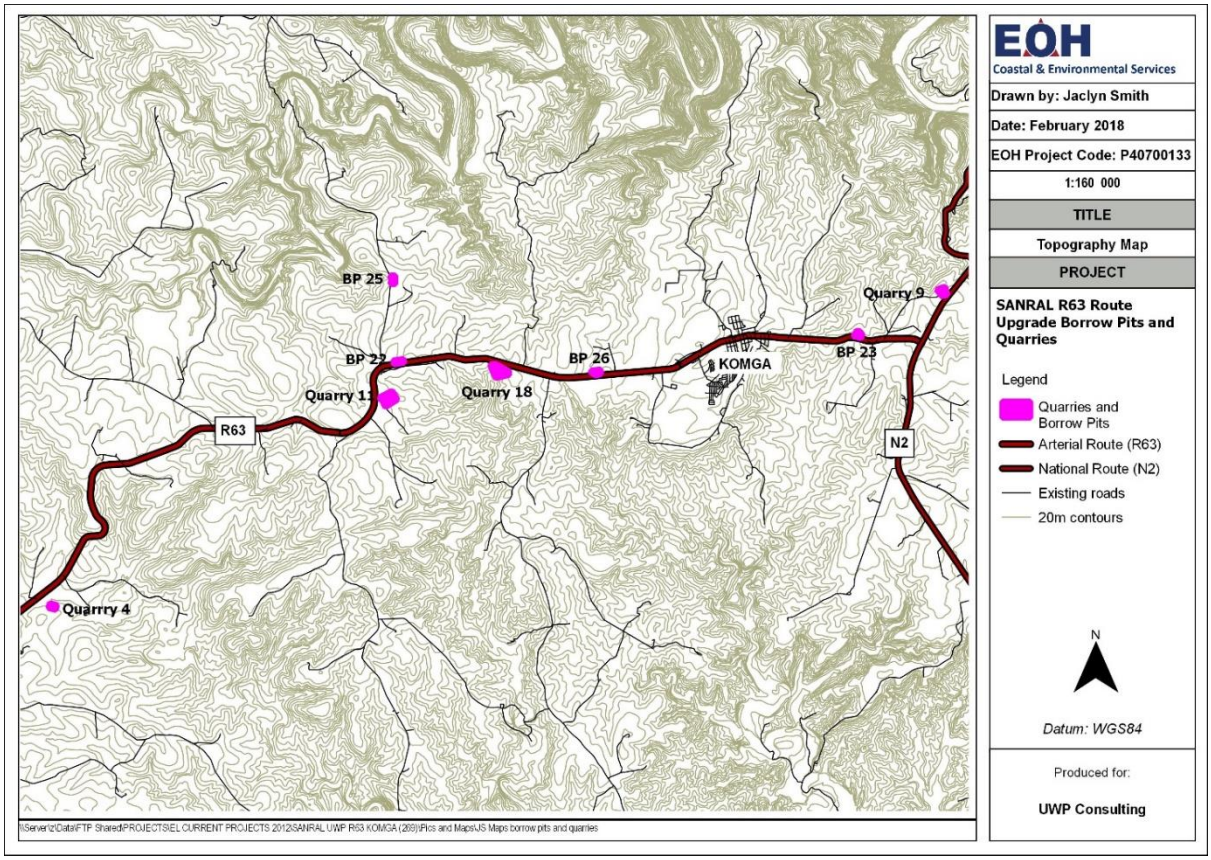


Figure 8-2: Topography of the study area

8.1.4 Geology and Soils

The area surrounding the borrow pits and quarry sites consists of mudstones from Beaufort Group (Karoo Supergroup). These are intruded by Karoo dolerite sills and dykes. Figure 8.3 below shows the geology of each borrow pit and quarry site.

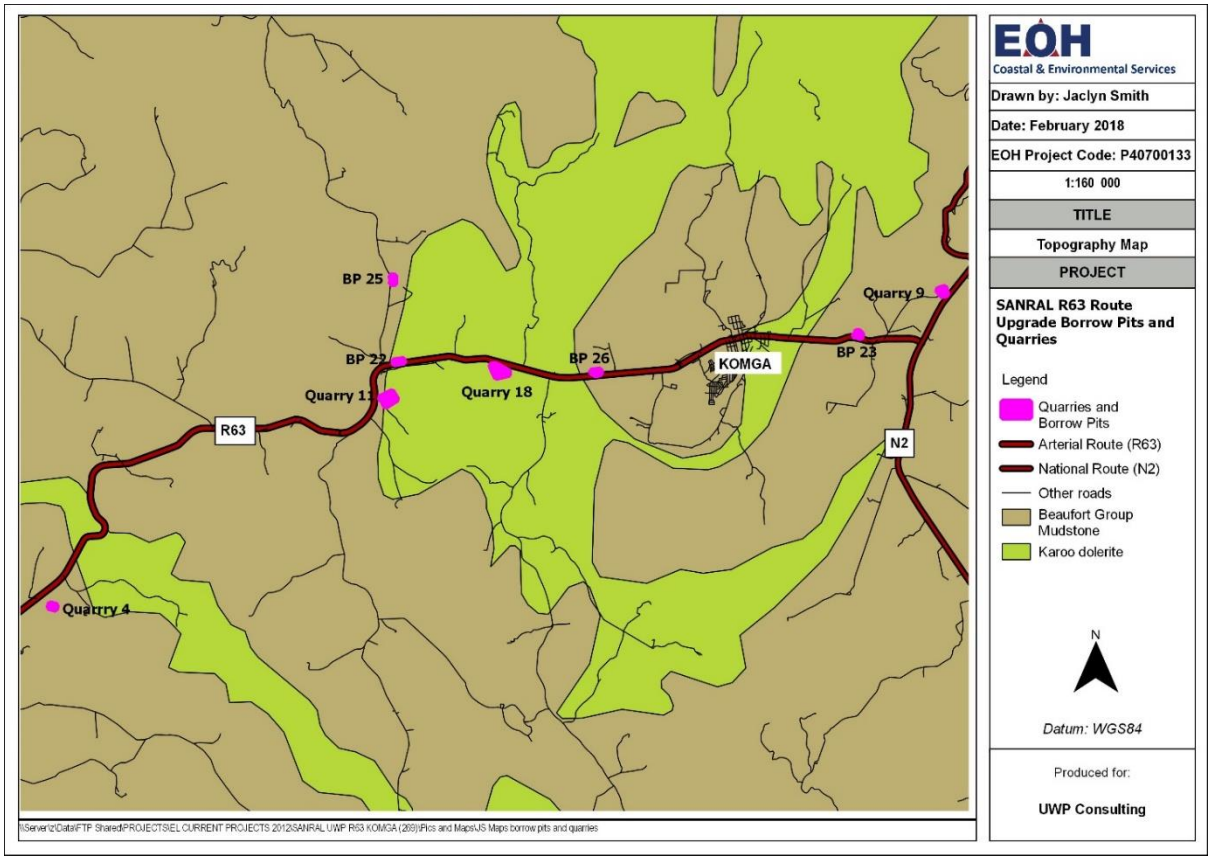


Figure 8-3: Geology of the study area

8.2 RIVERS AND WETLANDS

- Quarry 4 falls within 500m of an artificial and natural wetland which according to Google Earth imagery and site observations appear to be a storage dam.
- Quarry 11 falls within 500m of an artificial wetland (storage dam).
- BP 22 does not fall within any NFEPA wetlands or rivers however, site observations showed water that has accumulated in the old mining pit area.
- BP 25 falls within 32m of a non-perennial river.
- Quarry 18 falls within 500 m of an artificial wetland (storage dam) and within 32m of two non-perennial rivers.
- BP 26 falls within 500m of three artificial wetlands (storage dams).
- BP 23 falls within three artificial wetlands and one natural wetland (storage dams) and within 32m of a non-perennial river. Site observations and google earth imagery showed there to be two dams that have formed as a result of previous mining activity.
- Quarry 9 falls within 32 m of a non-perennial river.

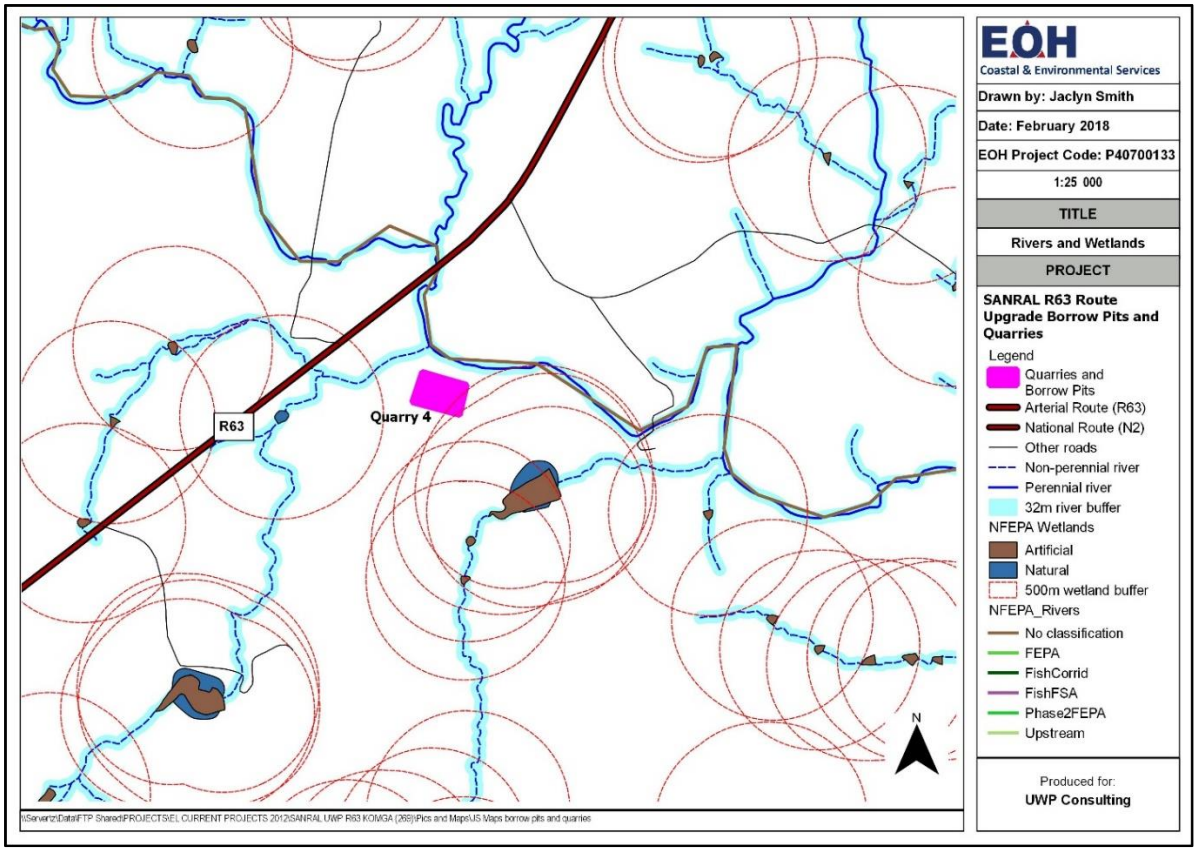


Figure 8-4: Rivers and wetlands in the vicinity of Quarry 4.

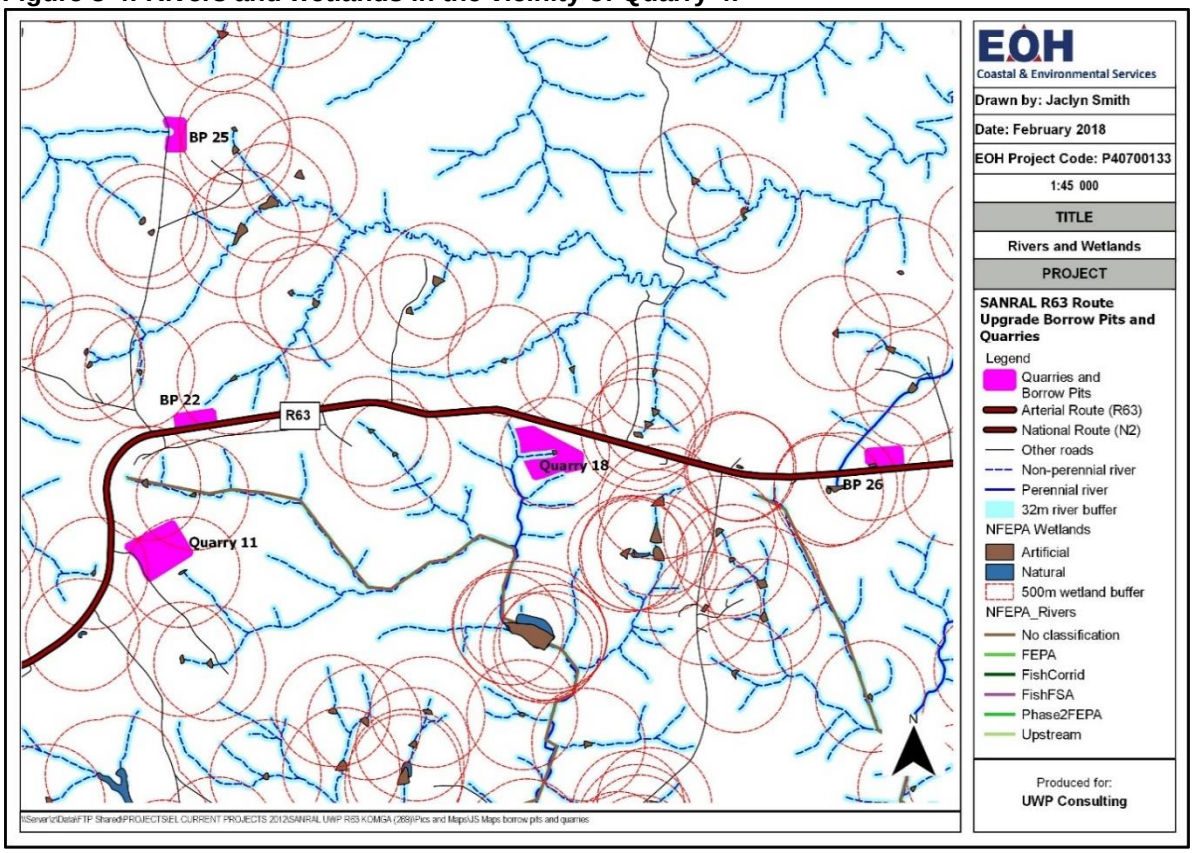


Figure 8-5: Rivers and wetlands in the vicinity of Quarry 11, BP 22, BP, 25, Quarry 18 and BP 26

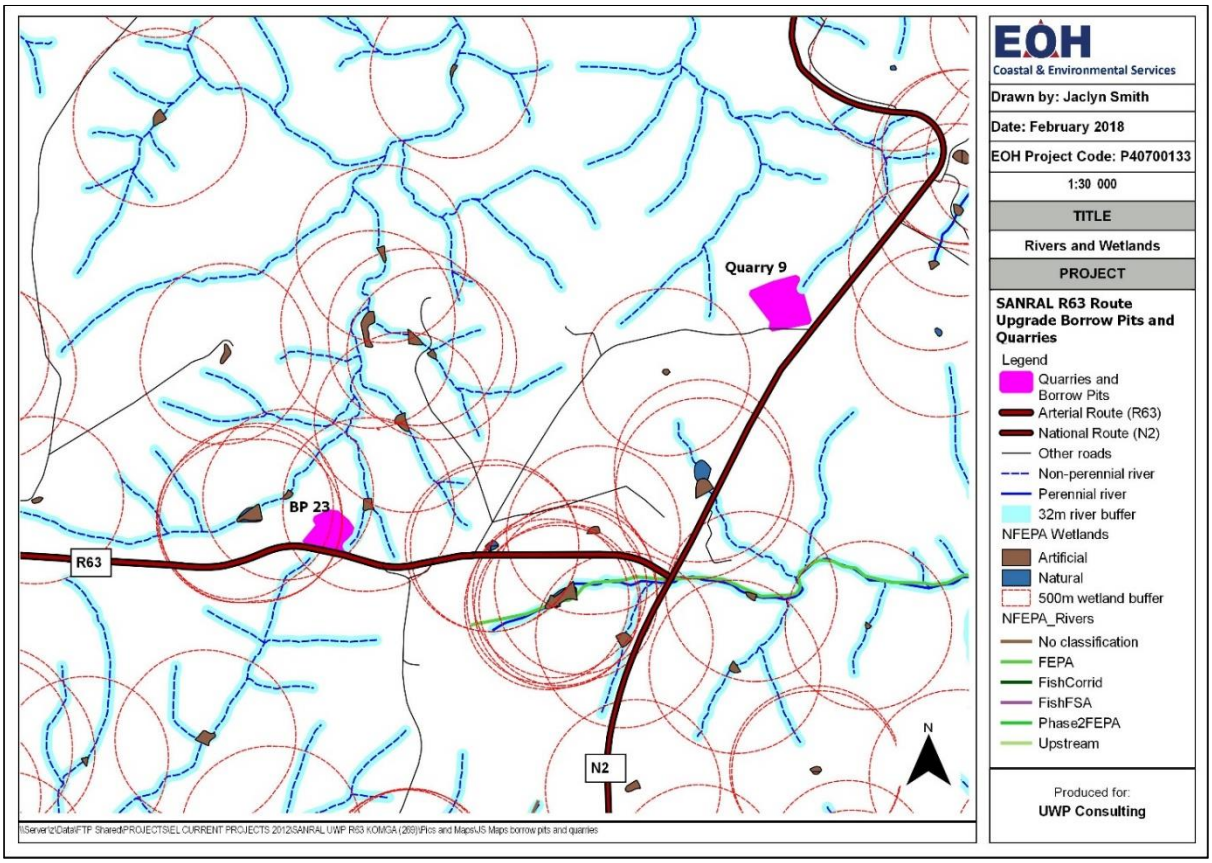


Figure 8-6: Rivers and wetlands in the vicinity of BP 23 and Quarry 9.

8.3 VEGETATION

8.3.1 Mucina and Rutherford

Mucina and Rutherford (2012) have developed the National Vegetation Map as part of a South African National Biodiversity Institute (SANBI) funded project: "*to provide floristically based vegetation units of South Africa, Lesotho and Swaziland at a greater level of detail than had been available before*." The map was developed using a wealth of data from several contributors and has resulted in the best national vegetation map to date, the previous being that of Adcocks developed over 50 years ago. This map forms the base of finer scale bioregional plans such as Sub-tropical Thicket Ecosystem Plan (STEP).
The map and accompanying book describe each vegetation type in detail, along with the most important species including endemic species and those that are biogeographically important and is the most comprehensive data for vegetation types in South Africa.

Mucina and Rutherford (2012) define the vegetation type that occurs within the project area as Bhisho Thornveld and Amathole Montane Grassland (Figure 8.5).

- **Bhisho Thornveld** occurs in the Eastern Cape Province from Mthatha in a band parallel to but inland of the coast to north of East London. This vegetation type occurs on undulating to moderately steep slopes, sometimes in shallow, incised valleys. The vegetation is described as open savannah characterised by small trees of *Vachelia natalia*, with a short to medium, dense sour grassy understory, usually dominated by *Themeda triandra* when in good condition. This vegetation type is classified as **Least Threatened** with a conservation target of 25%. Some 20 % is already transformed from cultivation, urban development or plantations. Erosion is considered very low to moderate.

- **Amathole Montane Grassland** occurs in the Eastern Cape Province along the Amathole, Winterberg and Kologha mountains, just north of Somerset East and along broken veld between Stutterheim and Komga. This vegetation type occurs on low mountain ranges and moderately undulating landscapes and is characterised by short grassland with high species richness of forbs, especially those of the family Asteraceae (especially *Helichrysum* and *Senecio*) and is dominated by a variety of grasses. This vegetation type is classified as **Least Threatened** with a conservation target of 27%. Some 10 % is already transformed from plantations and cultivation. Erosion is considered very low to moderate.

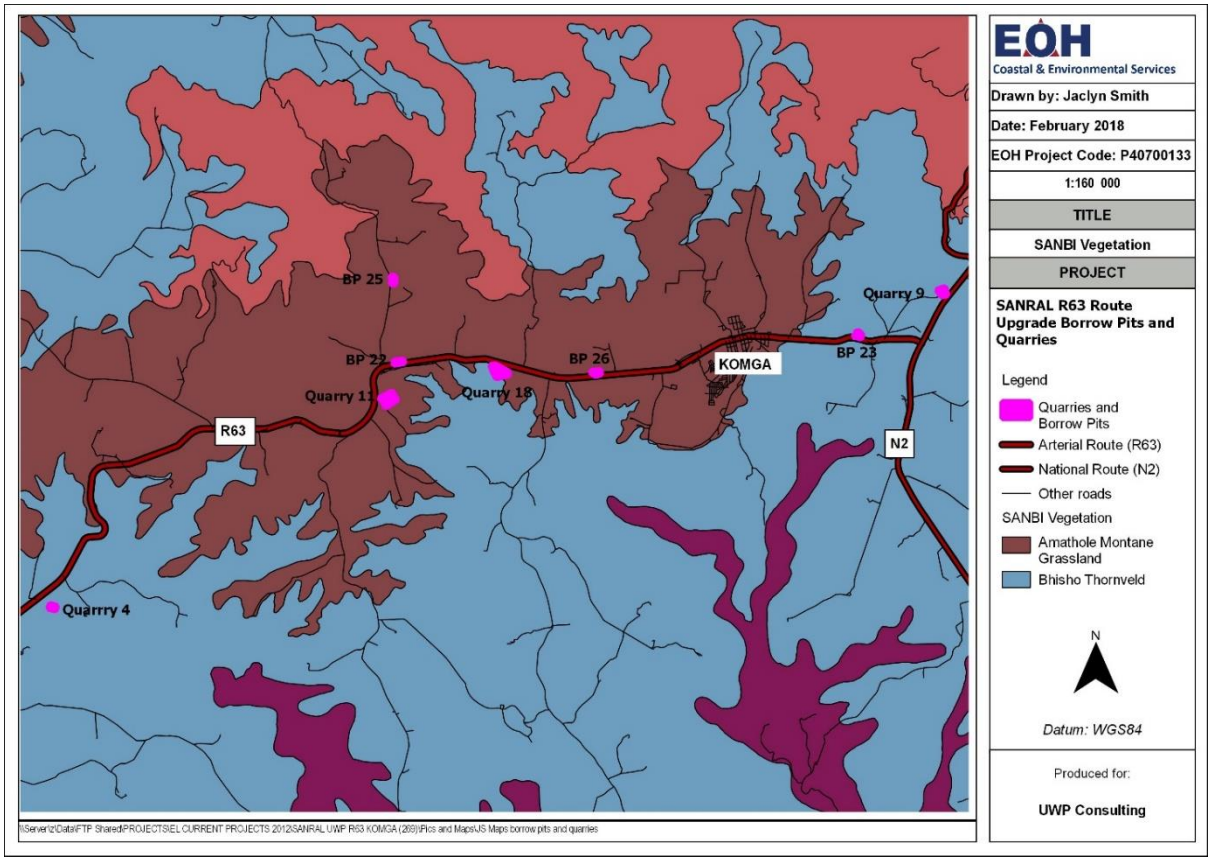


Figure 8-7: SANBI vegetation map of the study area

8.3.2 Forest classification

According to Department of Agriculture Forestry and Fisheries (DAFF) Forest Inventory, Quarry 18 falls within the Amatole Mistbelt Forest of the Southern Mistbelt Group. According to the CSIR Classification system for South African Indigenous Forests (2003) the Amatole Mistbelt Forest are dominated by *Podocarpus falcatus* trees and other semi-deciduous and deciduous trees such as

Vepris lanceolata, Celtis africana, Zanthoxylum davyl and *Calodendrum capense*. The Amatole Mistbelt Forest is considered to be **Near Threatened** (Derek Berliner, 2005).

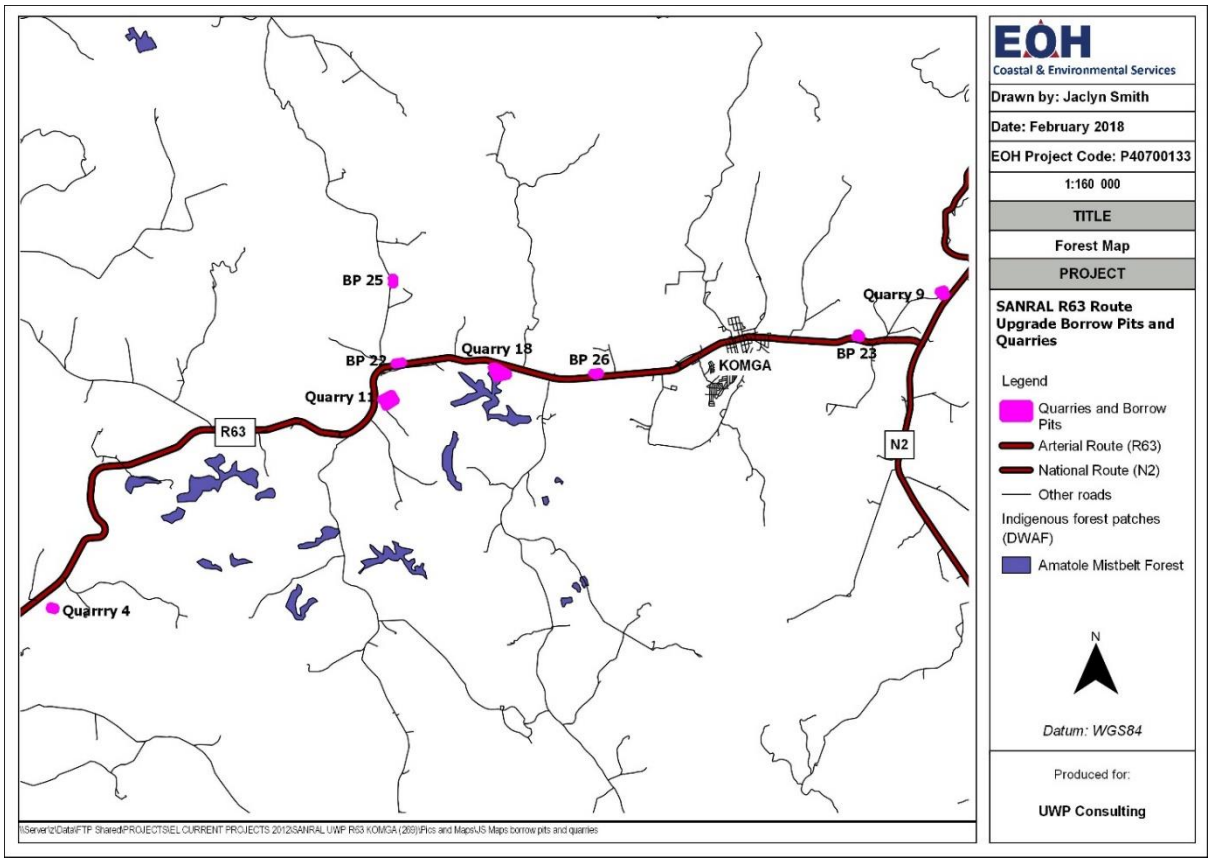


Figure 8-8: Indigenous Forest Patches of the study area.

8.4 CONSERVATION OF SPATIAL PLANNING TOOLS

8.4.1 Eastern Cape Biodiversity Conservation Plan

The main outputs of the Eastern Cape Biodiversity Conservation Plan (ECBCP) are the identification of "critical biodiversity areas" or CBAs, which are allocated the following management categories:

CBA 1 = Maintain in a natural state
CBA 2 = Maintain in a near-natural state

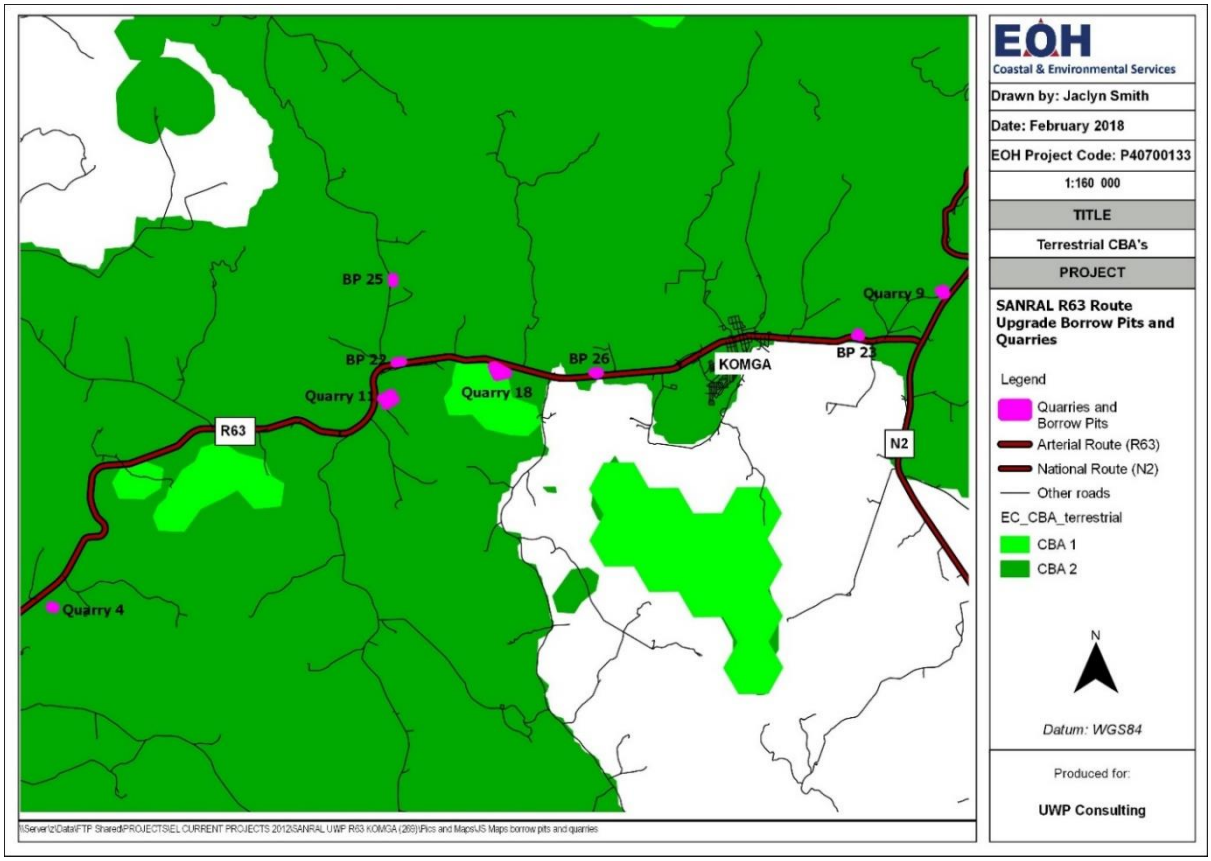


Figure 8-9: Terrestrial ECBCP map of the study area.

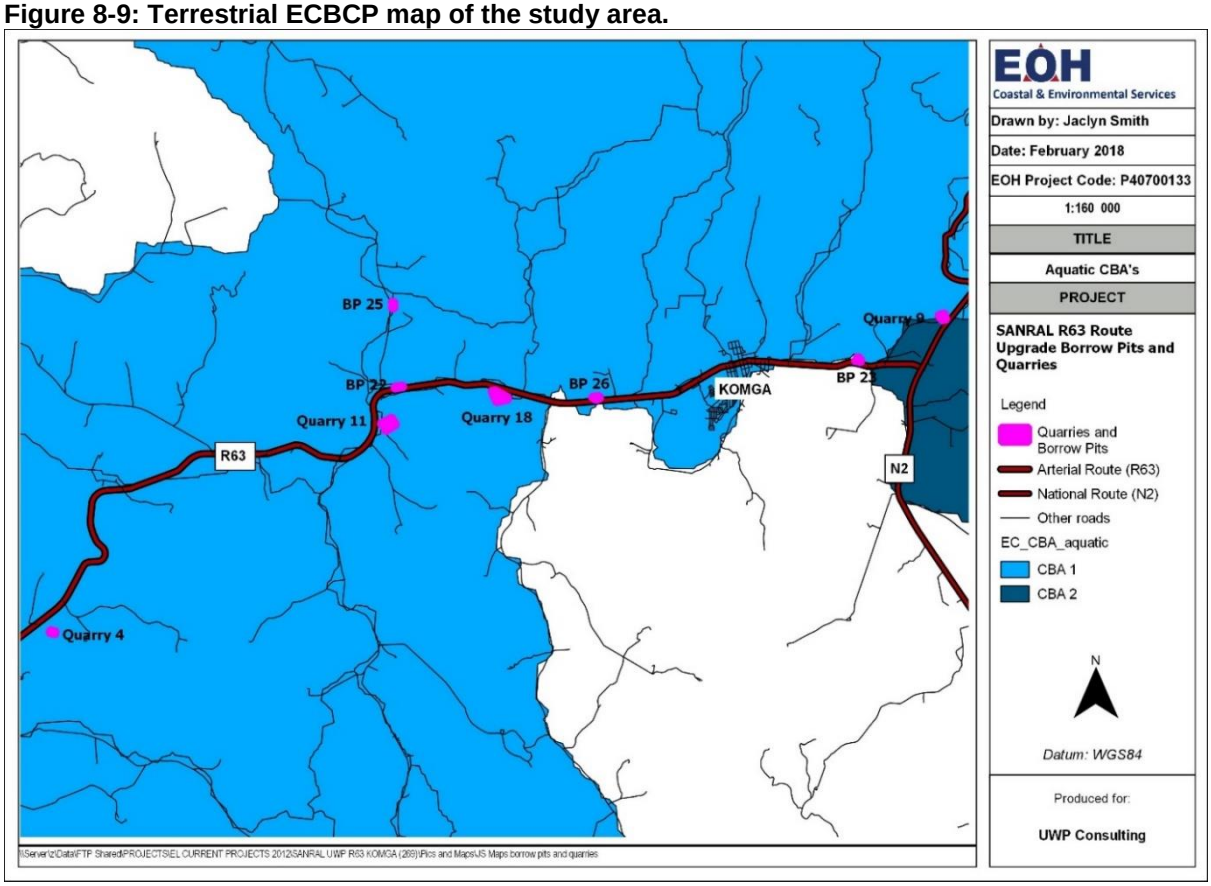


Figure 8-10: Aquatic ECBCP map for the study area.

Figure 8.9 illustrates that Quarry 18 falls within Terrestrial CBA Category 1 which states that the environment must be maintained in a natural state. Site observations showed that the site has been transformed for agricultural purposes. The remaining quarry and borrow pit sites fall within a Terrestrial CBA Category 2 which states that the environment must be maintained in a near natural state. Site observations and google earth imagery showed that the majority of the remaining sites appear to be degraded in areas from previous mining activities.

8.4.2 Protected Areas (NEMPAA & NPAES)

There are no known National, Provincial or locally protected areas found within the general study area.

There are no National Environmental Management Biodiversity Act (NEMBA) (National list or ecosystems that are threatened and in need of protection; 2014) classified ecosystems found within the study area.

8.5 Socio-Economic Profile

The proposed borrow pit and quarry sites fall within GKLM within the ADM. The GKLM covers an area of approximately 1.736 km^2.

8.5.1 Population

According to StatsSA (2011) the total population in the GKLM is 451,710 and comprises mainly black African people of which the majority is Xhosa speaking. 53.9% of the population is female. The average household size is 4 people and 57.3% of the households are female headed.

8.5.2 Employment

According to StatsSA (2011), of the 95,577 economically active (employed or unemployed and looking for work) people in the municipality, 38.3% are unemployed. The youth unemployment rate is 48.3% and 16.7% of the population receive no income.

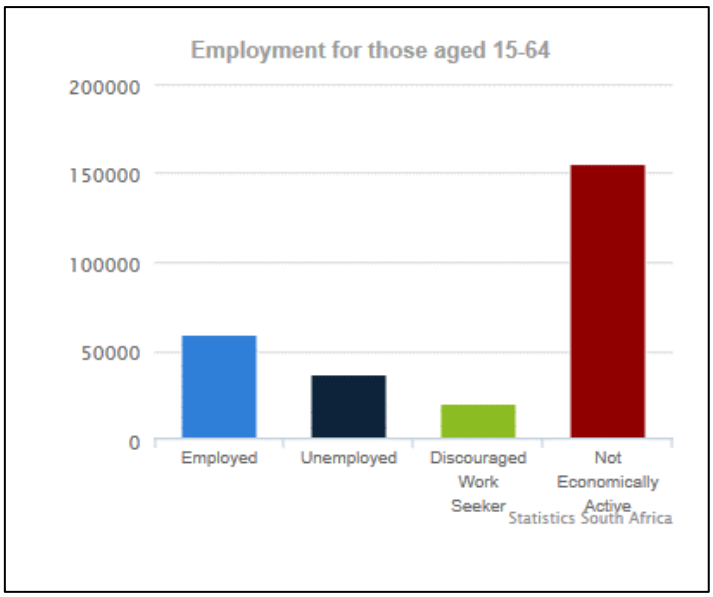


Figure 8-11: Employment figures for the GKLM (StatsSA, 2011).

8.5.3 Education

According to StatsSA (2011) 28.7% of the population aged of 20 years and older have no form of education. 48 % of the population have reached some primary education level. Only 1.1% of the population have received Higher Education.

9 APPROACH TO THE ENVIRONMENT IMPACT ASSESSMENT

In terms of Section APPENDIX 3(1) of the EIA Regulations (2014, as amended), a EIA Report must include –

h) A full description of the process followed to reach the proposed preferred activity, site and location within the site, including –

(v) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

9.1 GENERAL IMPACT ASSESSMENTS

A general impact assessment was conducted based on site visits and information relating to the planning and design, construction, operation and decommissioning/closure of the proposed Mining sites.

9.2 SPECIALIST IMPACT ASSESSMENTS

A series of specialist studies were conducted during the EIA for the proposed R63 Section 16 road upgrade. These specialist studies included the proposed mining sites in their assessment. The outcomes will be summarised in this EIR. Specialist studies that will be incorporated in this EIR:

- Ecological Impact Assessment
- Heritage Impact Assessment
- Palaeontological Impact Assessment
- Aquatic Study

9.3 METHODOLOGY FOR ASSESSING IMPACTS AND ALTERNATIVES

Identified impacts will be assessed against the following criteria:

- Temporal scale
- Spatial scale
- Risk or likelihood
- Degree of confidence or certainty
- Severity or benefits
- Significance

The relationship of the issue to the temporal scale, spatial scale and the severity are combined to describe the overall importance rating, namely the significance of the assessed impact.

Description of criteria

Table 9-1: Significance Rating Table

Significance Rating Table	
Temporal Scale (The duration of the impact)	
Short term	Less than 5 years (Many construction phase impacts are of a short duration).
Medium term	Between 5 and 20 years.
Long term	Between 20 and 40 years (From a human perspective almost permanent).
Permanent	Over 40 years or resulting in a permanent and lasting change that will always be there.
Spatial Scale (The area in which any impact will have an affect)	
Localised	Impacts affect a small area of a few hectares in extent. Often only a portion of the project area.
Study area	The proposed site and its immediate environs.
Municipal	Impacts affect the local municipality(s), or any towns within them.
Regional	Impacts affect the wider district municipality or the province as a whole.
National	Impacts affect the entire country.
International/Global	Impacts affect other countries or have a global influence.
Likelihood (The confidence with which one has predicted the significance of an impact)	
Definite	More than 90% sure of a particular fact. Should have substantial supportive data.
Probable	Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
Possible	Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
Unsure	Less than 40% sure of a particular fact, or of the likelihood of an impact occurring.

Table 9-2: Impact Severity Rating

Impact severity (The severity of negative impacts, or how beneficial positive impacts would be on a particular affected system or affected party)	
Very severe	Very beneficial
An irreversible and permanent change to the affected system(s) or party(ies) which cannot be mitigated. For example the permanent loss of land.	A permanent and very substantial benefit to the affected system(s) or party(ies), with no real alternative to achieving this benefit. For example the vast improvement of sewage effluent quality.

Severe	Beneficial
Long term impacts on the affected system(s) or party(ies) that could be mitigated. However, this mitigation would be difficult, expensive or time consuming, or some combination of these. For example, the clearing of forest vegetation.	A long term impact and substantial benefit to the affected system(s) or party(ies). Alternative ways of achieving this benefit would be difficult, expensive or time consuming, or some combination of these. For example an increase in the local economy.
Moderately severe	Moderately beneficial
Medium to long term impacts on the affected system(s) or party (ies), which could be mitigated. For example constructing a sewage treatment facility where there was vegetation with a low conservation value.	A medium to long term impact of real benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are equally difficult, expensive and time consuming (or some combination of these), as achieving them in this way. For example a 'slight' improvement in sewage effluent quality.
Slight	Slightly beneficial
Medium or short term impacts on the affected system(s) or party(ies). Mitigation is very easy, cheap, less time consuming or not necessary. For example a temporary fluctuation in the water table due to water abstraction.	A short to medium term impact and negligible benefit to the affected system(s) or party(ies). Other ways of optimising the beneficial effects are easier, cheaper and quicker, or some combination of these.
No effect	Don't know/Can't know
The system(s) or party(ies) is not affected by the proposed development.	In certain cases it may not be possible to determine the severity of an impact.

Table 9-3: Overall Significance Rating

Overall Significance (The combination of all the above criteria as an overall significance)	
VERY HIGH NEGATIVE	VERY BENEFICIAL
These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or social) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects. Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance. Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.	
HIGH NEGATIVE	BENEFICIAL
These impacts will usually result in long term effects on the social and/or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light. Example: The loss of a diverse vegetation type, which is fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated. Example: The change to soil conditions will impact the natural system, and the impact on affected parties (such as people growing crops in the soil) would be HIGH.	
MODERATE NEGATIVE	SOME BENEFITS
These impacts will usually result in medium to long term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by society as constituting a	

fairly important and usually medium term change to the (natural and/or social) environment. These impacts are real but not substantial. Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.	
LOW NEGATIVE	FEW BENEFITS
These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by the public and/or the specialist as constituting a fairly unimportant and usually short term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect. Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels. Example: The increased earning potential of people employed as a result of a development would only result in benefits of LOW significance to people who live some distance away.	
NO SIGNIFICANCE	
There are no primary or secondary effects at all that are important to scientists or the public. Example: A change to the geology of a particular formation may be regarded as severe from a geological perspective, but is of NO significance in the overall context.	
DON'T KNOW	
In certain cases it may not be possible to determine the significance of an impact. For example, the primary or secondary impacts on the social or natural environment given the available information. Example: The effect of a particular development on people's psychological perspective of the environment.	

10 KEY FINDINGS OF SPECIALIST STUDIES

In terms of APPENDIX 3(1) of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include –

(k) A summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report.

The following discussion summarises the key findings of the specialist studies. Full reports have been attached in Appendix C of the EIR. The relevant impacts and mitigation measures from these specialist studies have been included in the Impact Assessment of this report.

10.1 SPECIALIST STUDIES

The following Specialist Studies have been completed for the EIA Phase:

- **Ecological Impact Assessment:** Mr Mark Marshall from Sandula Conservation
- **Freshwater (Aquatic) Impact Assessment:** Ms Toni Belcher from BlueScience
- **Heritage Impact Assessment:** Ms Karen van Reyneveld
- **Paleontological Impact Assessment:** Dr John Almond

Please note that these specialist studies were developed for both the R63 Section 16 road upgrade EIA and the associated mining sites.

10.1.1 Ecological Impact Assessment

Mr Mark Marshall of Sandula Conservation was appointed to conduct the Ecological study.

APPROACH

- **Ascertaining floral species presence within the study area**
    - Conduct drives along the R63 where one physically inspects the study area and records the floral species seen.
    - The road was driven three times, regular stops were made where individual areas of potential importance were investigated.
    - Text book study of the floral species within the study area.
    - Plant community investigation; this involves identifying the individual plant communities and having a thorough knowledge of the floral component of the community.

- **Facts regarding the floral species**

After determining the floral component of the study area one must study the following aspects of the species.

- The species relevant to each above category is then studied in terms of its status, ability to be relocated etc
- Were they naturally there, planted invasive etc
- Other factors such as fire, grazing, wood removal etc

- **Floral habitat**

  - The habitats must be looked at, are they randomly alone, forming part of a community, how large is the community, will it sustain itself if disturbed ?
  - Topographical feature such as steep slopes, flat ground etc, this can determine the erosion effect on vegetation establishing after construction.

- **Impacts**

  - In terms of the above, the impacts are identified.
  - The impacts are examined and rated.

- **Mitigation**

  - The impacts are mitigated

RESULTS

The study area consists of various plant communities which have been existing, have materialized from the presence of agricultural practises, water presence, alien invasive vegetation, cattle/goat grazing and fire.

All borrowed pits, except borrow pit 25 and quarries are within close proximity to the road (R63). The potential of floral species being negatively impacted on during material transfer, from the pits etc to the road, is very low because of their proximity to the road. Access to borrow pit 25 is provided by an existing farm road. Due to the fact that a number of the pits have previously been mined, and presently being used for cattle grazing, the vegetation component is low with only weeds, grasses and small shrubs present within these sites. The potential unused pits which will be used during the construction phase are currently being used for grazing which indicates that there is limited floral species except for grazing grasses. The borrow pits and quarries are presently being used for cattle and goat grazing. They have been subjected to over grazing and frequent burning. The burning is usually the result of farmers encouraging fresh green grass growth for the livestock. This practise increases the grass component and decreases the component of plants of special concern etc.

Quarry 9

Quarry 9 is situated in close proximity to the N2. The floral component consists of grazing for cattle and goats (grasses),*Cynodon dactylon* being the dominant grass, there is a limited number of trees, mainly *Acacia natalitia.* There are no species of special concern nor protected floral species within the study area.

Borrow pit 23:

The vegetation of Borrow pit 23 consists of grasses, small shrubs and weeds. There is a small water drainage line feeding water run-off from the road into the pit area, hence the healthier grass component near the water settlement and path areas. There are no species of special concern nor protected plant species within this study area.

Borrowed pit 26
Borrowed pit 26 consists of only grasses for cattle grazing together with a small water pan. The pan is fed from water run- off from the road. Scattered *Acacia natalitia* are present within the pit. There are no plant species of special concern or protected plant species within this study area.

Quarry 18
Quarry 18 is situated within grazing pastures (agricultural land). Due to the use of this land there are no species of special concern nor protected plant species within this site.

Borrowed pits 22, 25 and Quarry 11
The vegetation component of the three sites (BP22, BP25 and Q11) consists of open cattle grassing grassland. The vegetation us uniform throughout all three sites and there are no species of special concern nor protected plant species.

Quarry 4
Quarry 4 was a previously used quarry which will be subjected to expansion during the road construction. The vegetation component consists of grasses and *Acacia natalitia.* This land has been subjected to fires in the past which has led to the encroachment of *Acacia natalitia.*

Alien vegetation
There is presence of a number of alien trees and plants within the study area. They have the potential of becoming invasive is not monitored and controlled. Below is a list of the alien trees and plants within the study area.

Common name	Species
Black wattle	*Acacia mearnsii*
Red gum	*Eucalyptus camaldulensis*
Pine trees	*Pinus spp.*
Flowering gum	*Eucalyptus ficifolius*
Prickerly pear	*Opuntia sp*
Lantana	*Lantana camara*
Seringa berry	*Melia azedarach*
Beefwood	*Casuarina cunninghamiana*
Bramble	*Rubus cuneifolius*
Bug weed	*Solanum mauritianum*
Sesbania	*Sesbania punicea*

RECOMMENDATIONS
The impacts involved with reference to the proposed road upgrade and associated mining sites are minimal, with proper mitigations, the impacts can be greatly reduced.

HABITAT DESTRUCTION

Mitigation objective: The mitigations below will greatly reduce the effects of the impact if addressed in the Environmental Management Plan

Mitigating measures:
- Search and rescue operations conducted before construction phase begins. Seedling trees and small plant species such as *Crassula ovata* should be relocated.

- Remove as little vegetation as possible to facilitate the construction work
- List the plant species before the construction commences and replace these species after the road has been constructed.
- It is recommended to plant pioneer species first to stabilise the ground and provide protection for the sub and climax community plants to grow
- Stockpile top soil from the development footprint to be reused after the construction of the road; this top soil hold seeds from the plant community.
- Evenly distribute the topsoil in areas after construction
- Put in measures to prevent soil erosion and soil loss thus allowing a suitable surface/medium for plants to stabilise themselves
- Plant soil stabilising plants such as *Carpobrotus* to help stabilise the soil and prevent erosion or loss of soil to secure plant root germination
- Provide measures to keep livestock from grazing and browsing in the rehabilitated area.
- Rehabilitation should be conducted

ALTERATION OF PLANT COMMUNITY

Mitigation objective: The mitigations below will greatly reduce the effects of the impact if addressed in the Environmental Management Plan.

Mitigating measures:

- List the plant species before the construction commences and replace these species after the road has been constructed.
- It is recommended to plant pioneer species first to stabilise the ground and provide protection for the sub and climax community plants to grow
- Use plant growth encouraging gabions; these gabions are fitted with substrate allowing plants to germinate in.
- Rehabilitate only with plant species from the area
- Conduct bi-annual audits to see if any species are invading/encroaching
- After the audit, remove any invasive species
- Livestock such as goats are selective grazers and will feed on the palatable plants, thus depleting them; leaving non palatable plants to invade
- Provide methods of keeping livestock from feeding in the rehabilitated zone
- Brought in soil must be examined for any forms of alien weeds/seeds before it is used in the rehabilitation process.

ESTABLISHMENT OF ALIEN INVASIVE PLANT SPECIES

Mitigation objective: The mitigations below will greatly reduce the effects of the impact if addressed in the Environmental Management Plan

Mitigating measures:

- Staff must be educated about the alien plant species in their area
- Routine road inspections must be conducted to guard against spillages from vehicles and trucks transporting grain seeds etc which may spill on the road and generate in the road reserve
- Remove any alien trees/plants within the immediate area of the construction footprint
- Implement an alien plant species monitoring programme
- Strictly monitor lay-by/stopping areas where people in vehicles may discard of fruit peels, pips/seeds etc which may germinate
- Provide rubbish bins in areas where vehicles may stop on the side of the road
- Do not use fire as a control measure for alien vegetation removal

- Kikuyu grass must not be used as a stabilising grass, seek out the indigenous grass species from that area and purchase seeds from registered seller
- Monitor for fires, fires stimulate alien seeds to germinate
- Brought in soil must be examined for any forms of alien weeds/seeds before it is used in the rehabilitation process.

10.1.2 Freshwater Assessment

Most of the watercourses that are near or crossed by the R63 road to be upgraded form part of the upper reaches of the Great Kei, Kwelera and portions of the Gqunube Rivers and drain the higher lying and flat Amathole Montane Grasslands. These watercourses tend to meander through the flatter grassy terrain, with less defined riparian zones and wider seep areas. Many small dams have been constructed in these seep areas. The foothill reach of the Gqunube River flows within a deeper river valley in the Bhisho Thornveld. Some valley bottom wetlands are also associated with the watercourses.

The rivers in the area are largely deemed to be in a moderately to largely modified ecological condition while the wetlands are in general in a moderately modified ecological condition. The rivers areas are of moderate to high ecological importance and sensitivity and wetlands are of high ecological importance. This is with the exception of the artificially created depression wetlands that are deemed to be largely to seriously modified and of moderate importance.

The proposed borrow areas / quarries are mostly located adjacent to watercourses or contain watercourses or mapped wetland areas that are associated with past excavations within the sites. Various setback areas from these watercourses have been recommended for the borrow areas / quarries to ensure that these aquatic features are not impacted by the proposed activities. Should the proposed borrow areas / quarries and the associated removal of material remain outside of these setback areas, the potential aquatic ecosystem impacts would be of a low to very low significance. The associated risk that the proposed activities will detrimentally impact on the aquatic features is also considered to be low for the construction and operational phase, provided that the recommended mitigation measures are implemented. It is thus likely that these activities can be authorised in terms of the General Authorisations.

10.1.3 Heritage Impact Assessment

A total of 19 archaeological and cultural heritage sites, namely Sites R63-S1 to R63-S19, were identified during the field assessment. Development will not impact on any of the identified heritage resources. All identified heritage sites comprise Colonial Period sites, aside from Site R63-S2, a LIA grave site and Site R63-S19 a contemporary site of worship. Caution needs to be taken while working in proximity to the railway line, with the railway line having been constructed more than 100 years ago, and thus being a heritage site. The development proposal does not include impact on the railway reserve. Contemporary bridges and stone lined culverts and drainage channels do not comprise heritage sites or structures formally protected by the NHRA 1999.

- The proposed development poses no ‘fatal flaws’ with reference to archaeological and cultural heritage resources.
- From an archaeological and cultural heritage point of view consideration of a ‘No-Go’ option is irrelevant.
- No additional archaeological or cultural heritage mitigation recommendations, aside from temporary conservation measures during the course of construction at Site R63-S2 apply to the development.
- The development will have no cumulative impact on archaeological or cultural heritage resources.

- [In the event of any incidental archaeological and cultural heritage resources, as defined and protected by the NHRA 1999, being identified during the course of development the process described in 'Appendix B: Heritage Protocol for Incidental Finds during the Construction Phase' should be followed. The developer is advised to ensure a sufficient heritage contingency budget to address incidental finds during the course of development.]

With reference to archaeological and cultural heritage compliance, as per the requirements of the NHRA 1999, it is recommended that the proposed Upgrade of the National Route R63 Section 16 between the N6 Bridge [km 1,00] and the N2 Intersection East of Komga [km 43,64], GKLM, Eastern Cape, proceed provided the developer comply with the listed heritage compliance recommendations.

10.1.4 Palaeontological

The South African National Roads Agency SOC Limited is proposing to upgrade Section 16 of the National Route R63 between Kei Road and the N2 near Komga, Amathole District, Eastern Cape. The road project will involve the development of eight new or existing borrow pits and quarries.
The study area for the proposed road upgrade is underlain by Late Permian continental sediments of the Lower Beaufort Group (Adelaide Subgroup, Karoo Supergroup) that are assigned to the Balfour Formation. However, these potentially fossiliferous bedrocks are generally poorly-exposed, deeply-weathered and have been locally baked by major Karoo dolerite intrusions. Desktop and field assessments of the study area indicate that the sedimentary rocks of the Balfour Formation in this region contain, at most, very sparse vertebrate fossils, non-marine bivalves, petrified wood and trace fossils (*e.g.* large vertebrate burrows). No fossil remains of any sort were recorded from sedimentary rocks exposed within the development footprint itself, including the eight associated quarry and borrow pit sites and several road cuttings along the R63. Superficial sediments of Late Pleistocene to Recent age - including thick sandy to gravelly alluvium, surface gravels, ferricrete hardpans and modern soils – are apparently unfossiliferous. No vertebrate fossils, reworked petrified wood or other fossil remains were recorded within the superficial sediments during the present field assessment. Four proposed quarry / borrow pit excavations into a Jurassic dolerite sill *c*. 12 km to the west of Komga are of no palaeontological heritage significance.

The overall impact significance of the R63 (Section 16) road project, including the eight associated quarry / borrow pits, is evaluated as *very low* as far as palaeontology is concerned. Unless significant new fossil finds (*e.g.* well-preserved vertebrate remains, petrified wood) are made during the construction phase of the development, further specialist palaeontological studies or mitigation are not regarded as warranted for this project. The Environmental Control Officer (ECO) for the project should be alerted to the potential for, and scientific significance of, new fossil finds during the construction phase of the development. They should familiarise themselves with the sort of fossils concerned through museum displays (*e.g.* Amatole Museum, King William's Town, East London Museum) and accessible, well-illustrated literature (*e.g.* MacRae 1999).

Should important new fossil remains - such as vertebrate bones and teeth, petrified wood, plant-rich fossil lenses or dense fossil burrow assemblages - be exposed during construction, the responsible Environmental Control Officer should alert ECPHRA as soon as possible so that appropriate action can be taken in good time by a professional palaeontologist at the developer's expense. Palaeontological mitigation would normally involve the scientific recording and judicious sampling or collection of fossil material as well as of associated geological data (*e.g.* stratigraphy, sedimentology, taphonomy). The palaeontologist concerned with mitigation work will need a valid fossil collection permit from ECPHRA and any material collected would have to be curated in an approved

depository(*e.g.* museum or university collection). All palaeontological specialist work should conform to international best practice for palaeontological fieldwork and the study (*e.g.* data recording fossil collection and curation, final report) should adhere as far as possible to the minimum standards for Phase 2 palaeontological studies recently developed by SAHRA (2013). These recommendations should be incorporated into the Environmental Management Programme (EMPr) for the R63 (Section 16) road and quarry / borrow pit development.

10.2 Sensitivity Assessment

A sensitivity map of the study area is provided in Figure 10.2 below. This map was developed based on site visits and the relevant specialist reports. The majority of the mining sites and areas immediately surrounding the sites is considered to have a low sensitivity. Areas of high sensitivity surrounding the mining sites site drainage lines and wetlands. No construction or mining activities should take place within 32m of the watercourses and within 20 m of identified heritage sites.

11 IMPACT ASSESSMENT

In terms of APPENDIX 3(3) of the EIA Regulations (2014, amended 2017), an Environmental Impact Assessment Report must include –

h) A full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report, including –

(v) The impacts and risks identified including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts –

- **Can be reversed;**
- **May cause irreplaceable loss of resources; and**
- **Can be avoided, managed or mitigated;**

(vii) Positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;

i) A full description of the process undertaken to identify, assess and rank the impacts that the activity and associated structures and infrastructure will impose on the preferred development footprint within the approved site as contemplated in the accepted scoping report through the life of the activity, including –

- **A description of all environmental issues and risks that were identified during the environmental impact process; and**
- **An assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.**

(j) An assessment of each identified potentially significant impact and risk, including –

- **Cumulative impacts;**
- **The nature, significance and consequences of the impact and risk;**
- **The extent and duration of the impact and risk;**
- **The probability of the impact and risk occurring;**
- **The degree to which the impact and risk can be reversed;**
- **The degree to which the impact and risk may cause irreplaceable loss of resources;**
- **The degree to which the impact and risk can be mitigated.**

11.1 POSSIBLE ENVIRONMENTAL IMPACTS

The impact assessment for the proposed mining sites was conducted in two parts:

- General Impact Assessment
- Specialist Impact Assessment

The general impact assessment and specialist impact assessments were combined into one table per phase and a detailed assessment of all impacts and mitigation measures is available in **Appendix B**.

11.1.1 General Impact Assessment

The general impact assessment identified and assessed impacts across four phases of borrow pit development:

- Planning & Design Phase
- Construction Phase
- Operational or Mining Phase
- Decommissioning/Closure Phase

Issues identified were not covered in the specialist studies such as:

- Waste management
- pit design
- Sanitation
- Hazardous substances
- Dust and noise issues
- Socio-economic impacts
- General construction impacts
- Stormwater management
- Visual impacts

11.1.2 Specialist Impact Assessment

The specialist impact assessment covered issues identified by the following specialist studies:

- Freshwater Assessment
- Ecological Assessment
- Heritage Impact Assessment
- Paleontological Impact Assessment

Below is a summary of all general and specialist Impacts

Table 11.2: Summary of all general and specialist impacts

THEME	DESCRIPTION OF IMPACT
Planning and Design Phase	
GENERAL IMPACTS	
Eastern Cape Biodiversity Conservation Plan (ECBCP)	The critical biodiversity areas, could be adversely affected if the planning and design of the proposed mining sites is not consistent with the ECBCP recommendations for Critical Biodiversity Areas (CBAs).
Amathole District Municipality (ADM) Integrated Development Plan	Failure to comply with the ADM IDP could lead to unnecessary delays in construction activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.
Great Kei Local Municipality (GKLM) SDF and IDP	The planning and design of the mining sites associated with the National Route R63 Section 16 should be consistent with the Great Kei Local Municipality SDF and IDP.
Compliance with relevant environmental legislation	During the planning and design phase non-compliance with the laws and policies of South Africa pertaining to the environment could lead

and policy	to damage to the aquatic and terrestrial environment, unnecessary delays in construction activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.
Design of the mining sites	During the planning and design phase an inappropriately designed mining site could lead to subsidence, face collapses, erosion and stormwater issues (during mining).
Disturbance to the topography of the study area	During the planning and design phase failure to plan for the permanent disturbance to the topography of the mining sites (as a result of mining) could result in safety hazards, erosion and stormwater issues.
Storm water	During the planning and design phase inappropriate stormwater design may lead to an increase in surface soil erosion and subsequently sedimentation of the surrounding rivers and streams.
Specialist Impact Assessment	
Heritage Impact Assessment	
Impact on sites of archaeological and cultural significance	During the planning and design phase, poor planning and consideration of the identified heritage sites could result in the loss of sites of archaeological and cultural significance.
Paleontological Impact Assessment	
Paleontological findings	During the planning and design phase, poor planning and consideration of the identified paleontological sites could result in the loss of sites of conservation worthy paleontological sites.
Ecological Impact Assessment	
Disturbance of sensitive areas	Poor planning and design of the layout of the mining areas could result in erosion and degradation of water courses and their associated sensitive habitats.
Loss of endangered and protected vegetation	Poor planning for the removal of sensitive vegetation could result in the permanent loss of plant SCC (e.g. aloes).
Construction phase	
Visual intrusion associated with the establishment of the mining sites	During the construction phase construction activity and the presence and use of large machinery on site and along access roads will result in a visual disturbance of the landscape.
Sanitation facilities	During the construction phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.
Demarcation of mining pit sites	During the construction phase inadequate demarcation and fencing off of the mining sites could lead to unnecessary environmental disturbance.
Socio-economic	During the construction phase temporary jobs will be created which will benefit the local workforce.
Waste management	During construction, littering on site may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.
Specialist Impact Assessment	
Heritage Impact Assessment	
Impact on sites of archaeological and cultural significance	During the construction phase sensitive heritage sites could be damaged or destroyed.

	During the construction phase potential unidentified heritage features may be uncovered and damaged.
Paleontological Impact Assessment	
Palaeontological Findings	During the construction phase sensitive paleontological resources may be uncovered and damaged or destroyed.
Ecological Impact Assessment	
Loss of natural vegetation	During the construction phase Clearing of natural vegetation for site camps and infrastructure will lead to the loss of natural vegetation.
Rehabilitation of disturbed areas	During the construction phase a lack of continuous rehabilitation of disturbed areas may lead to the permanent degradation of ecosystems as well as allow alien vegetation species to spread.
AQUATIC IMPACT ASSESSMENT	
Material Stockpiling	During the construction phase, stockpiling of construction materials close to watercourses could result in erosion and mobilisation of the materials into the nearby watercourse, resulting in sedimentation and a decrease in water quality and aquatic habitat.
Water Quality	During the construction phase, accidental contamination of wet concrete (highly alkaline) in the rivers/wetland systems could result in flash kills of macro-invertebrates and fish species in the vicinity (see Aquatic Impact Assessment). During the construction phase, accidental chemical spills or other spills (sewage, etc.) in the vicinity of the rivers/wetlands will result in water pollution, adversely affecting the aquatic ecosystem.
Impact on integrity of dams	During the construction phase inappropriate activities/ encroachment into dam (artificial wetland) areas could affect the water quality and integrity of the dams.
Operational Phase	
Compliance with relevant environmental legislation and policy	During the operational (mining) phase failure to comply with existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, legislation etc. This could result in legal non-compliance, fines, overall project failure or delays in mining activity and undue disturbance to the natural environment.
Visual intrusion associated with mining activities	During the operational (mining) phase the mining activities could result in a negative impact on the aesthetic value of the study area and immediate surrounds.
Sanitation facilities	During the operational (mining) phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.
Demarcation of mining sites	During the operational (mining) phase encroachment of mining activities onto areas outside the borrow pit footprints could result in unnecessary environmental disturbance.
Storm water	During the operational (mining) phase inadequate stormwater control could result in soil erosion and impact surface water quality.
Spillage of hazardous substances	During the operational (mining) phase spillage of any hazardous substances such as fuel, chemicals, etc. could result in ground and surface water contamination.

Dust control	During the operational (mining) phase dust (generated from mining activities and from vehicles traveling on dirt roads) could be a nuisance during windy conditions.
Noise	During the operational (mining) phase mining activities and movement of heavy vehicles could result in an increase in ambient noise levels on site and on surrounding properties.
Waste management	During operation (mining) littering on site may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.
Socio-economic	During the operational phase jobs will be created which will benefit the local workforce.
Specialist Impact Assessment	
HERITAGE IMPACT ASSESSMENT	
Identification of archaeological and sites of cultural significance	During the operational (mining) phase sites of archaeological or cultural significance might be uncovered and damaged.
PALEONTOLOGICAL IMPACT ASSESSMENT	
Palaeontological Findings	During the operation phase (mining) phase sensitive paleontological resources may be uncovered and damaged or destroyed.
ECOLOGICAL IMPACT ASSESSMENT	
Loss of endangered and protected vegetation	During the operational phase mining activities may result in the permanent loss of plant SCC.
Inadequate rehabilitation	During the operational (mining) phase inadequate rehabilitation may lead to the permanent loss of sensitive vegetation as well as allow the spread of alien invasive vegetation.
Impact on surrounding fauna and flora	During the operational (mining) phase encroachment of mining activities into surrounding areas may cause unnecessary harm to sensitive faunal and floral species.
AQUATIC IMPACT ASSESSMENTS	
Stormwater management	During the operation phase inappropriate routing of stormwater will lead to stream sedimentation.
Decommissioning	
Final rehabilitation and decommissioning	During the decommissioning phase failure to decommission and rehabilitate the mining site properly could result in soil erosion, storm water issues, safety risks and invasion of alien plant species.
During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.	During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.

12 IMPACT STATEMENT

In terms of APPENDIX 3(3) of the EIA Regulations (2014, amended 2017), an Environmental Impact Assessment Report must include:

(l) An environmental impact statement which contains –
- **(i) A summary of the key findings of the environmental impact assessment;**
- **(ii) A map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and**
- **(iii) A summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;**

(n) The final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified throughout the assessment;

In line with the above-mentioned legislative requirement, this chapter of the EIR provides an Environmental Impact Statement which summarises the environmental impact assessment findings. This chapter of the EIR also includes a sensitivity map and a summary of the alternatives investigated.

12.1 ENVIRONMENTAL IMPACT STATEMENT

The HIGH negative impacts that were identified are summarised in Table 12.1 below. These impacts can all be reduced through the recommended mitigation measures to LOW or MODERATE post-mitigation impacts.

Table 12-1: High Impacts identified for the proposed mining sites sites

Theme	Description of impact
Planning and Design Phase	
GENERAL IMPACTS	
Eastern Cape Biodiversity Conservation Plan (ECBCP)	The critical biodiversity areas, could be adversely affected if the planning and design of the proposed mining sites is not consistent with the ECBCP recommendations for Critical Biodiversity Areas (CBAs).
Compliance with relevant environmental legislation and policy	During the planning and design phase non-compliance with the laws and policies of South Africa pertaining to the environment could lead to damage to the aquatic and terrestrial environment, unnecessary delays in construction activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.
Design of the mining sites	During the planning and design phase an inappropriately designed mining site could lead to subsidence, face collapses, erosion and stormwater issues (during mining).
Storm water	During the planning and design phase inappropriate stormwater design may lead to an increase in surface soil erosion and

Theme	Description of impact
	subsequently sedimentation of the surrounding rivers and streams.
Specialist Impact assessment	
ECOLOGICAL IMPACT ASSESSMENT	
Disturbance of sensitive areas	Poor planning and design of the layout of the mining areas could result in erosion and degradation of water courses and their associated sensitive habitats.
Construction Phase	
GENERAL IMPACTS	
Sanitation facilities	During the construction phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.
Demarcation of mining pit sites	During the construction phase inadequate demarcation and fencing off of the mining sites could lead to unnecessary environmental disturbance.
ECOLOGICAL IMPACTS	
AQUATIC IMPACTS	
Water Quality	During the construction phase, accidental chemical spills or other spills (sewage, etc.) in the vicinity of the rivers/wetlands will result in water pollution, adversely affecting the aquatic ecosystem.
Operation (Mining) Phase	
GENERAL IMPACTS	
Compliance with relevant environmental legislation and policy	During the operational (mining) phase failure to comply with existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, legislation etc. This could result in legal non-compliance, fines, overall project failure or delays in mining activity and undue disturbance to the natural environment.
Sanitation facilities	During the operational (mining) phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.
Demarcation of mining sites	During the operational (mining) phase encroachment of mining activities onto areas outside the borrow pit footprints could result in unnecessary environmental disturbance.
ECOLOGICAL IMPACTS	
Loss of endangered and protected vegetation	During the operational phase mining activities may result in the permanent loss of plant SCC.
Impact on surrounding fauna and flora	During the operational (mining) phase encroachment of mining activities into surrounding areas may cause unnecessary harm to sensitive faunal and floral species.
Decommissioning/Closure Phase	
GENERAL IMPACTS	
Final rehabilitation and decommissioning	During the decommissioning phase failure to decommission and rehabilitate the mining site properly could result in soil erosion, storm water issues, safety risks and invasion of alien plant species.

Theme	Description of impact
During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.	During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.

12.2 COMPARATIVE ASSESSMENT OF IMPACTS

Below is an assessment of the impacts in terms of the number of impacts identified for each phase. The breakdown of the impact assessments in Table 12.2 to 12.5 below provides insight into the key issues of all phases (including the no-go option) of the proposed mining pit sites.

12.2.1 General Impact Assessment

An analysis of the distribution of General impacts identified indicates that the bulk of the mitigation effort should be placed on the Planning and Design and Operation or Mining Phase. The HIGH impacts identified in the planning and design phase and operation phase relate to compliance with legislation, mining site design, stormwater infrastructure design, location and servicing of sanitation facilities and demarcation of the borrow pit sites.

Both HIGH and MODERATE identified impacts can be significantly reduced through the recommended mitigation measures resulting in predominantly LOW post-mitigation impacts.

Two impacts were identified as being positive impacts. These impacts related to the socio-economic benefit of the proposed mining sites in terms of job creation.

Table 12-2: Comparative Assessment of General Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact)

	PRE-MITIGATION				POST-MITIGATION			
	LOW	MODERATE	HIGH	VERY HIGH	LOW	MODERATE	HIGH	VERY HIGH
Planning & Design	2	1	4	0	6	1	0	0
Construction	0	2	2	0	4	1	0	0
Operation	0	6	3	0	9	1	0	0
Decommissioning	0	0	2	0	2	0	0	0
TOTAL	**2**	**9**	**11**	**0**	**21**	**3**	**0**	**0**

12.2.2 Ecological Impact Assessment

HIGH impacts identified from the Ecological Impact Assessment related to inadequate design of the mining sites, poor planning for the removal of sensitive vegetation and permanent loss of plant SCC. An analysis of the distribution of impacts illustrated that the bulk of the mitigation effort should be placed on the Operation Phase as this is the highest impacting phase.

HIGH and MODERATE pre-mitigation impacts can be reduced through the recommended mitigation measures to predominantly LOW post-mitigation impacts.

Table 12-3: Comparative Assessment of Ecological Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact)

	PRE-MITIGATION				POST-MITIGATION			
	LOW	MODERATE	HIGH	VERY HIGH	LOW	MODERATE	HIGH	VERY HIGH
Planning & Design	**0**	**1**	**1**	**0**	2	0	0	0
Construction	**0**	**2**	**0**	**0**	2	0	0	0
Operation	**0**	**1**	**2**	**0**	3	0	0	0
Decommissioning	**0**	**0**	**0**	**0**	0	0	0	0
TOTAL	**0**	**4**	**3**	**0**	**7**	**0**	**0**	**0**

12.2.3 Aquatic Impact Assessment

HIGH impacts identified from the Aquatic Impact Assessment related to inadequate design of the m, inadequate design of the mining sites and accidental chemical spills during construction.

An analysis of the distribution of impacts illustrated that the bulk of the mitigation effort should be placed on the Operation Phase as this is the highest impacting phase.

HIGH and MODERATE pre-mitigation impacts can be reduced through the recommended mitigation measures to predominantly LOW post-mitigation impacts.

Table 12-4: Comparative Assessment of Aquatic Impacts occurring in all phases for the proposed mining sites (+ = beneficial impact)

	PRE-MITIGATION				POST-MITIGATION			
	LOW	**MODERATE**	**HIGH**	**VERY HIGH**	**LOW**	**MODERATE**	**HIGH**	**VERY HIGH**
Planning & Design	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Construction	**0**	**3**	**1**	**0**	**4**	**0**	**0**	**0**
Operation	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**
Decommissioning	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
TOTAL	**0**	**4**	**1**	**0**	**5**	**0**	**0**	**0**

12.2.4 Heritage Impact Assessment

The Heritage Impact Assessment identified impacts in the Planning and Design, Construction and Operation or Mining Phases.
All pre-mitigation impacts identified were rated as MODERATE and these impacts can be reduced using the recommended mitigation measures to LOW post-mitigation impacts.

Table 12-5: Comparative Assessment of Heritage and Paleontological Impacts occurring in all phases for the proposed borrow pit sites (+ = beneficial impact)

	PRE-MITIGATION				POST-MITIGATION			
	LOW	MODERATE	HIGH	VERY HIGH	LOW	MODERATE	HIGH	VERY HIGH
Planning & Design	1	1	0	0	1	(+1)	0	0
Construction	1	2	0	0	3	0	0	0
Operation	0	2	0	0	2	0	0	0
Decommissioning	0	0	0	0	0	0	0	0
TOTAL	**2**	**5**	**0**	**0**	**6**	**+1**	**0**	**0**

12.2.5 Paleontological Impact Assessment

The Heritage Impact Assessment identified impacts in the Planning and Design, Construction and Operation or Mining Phases.

All pre-mitigation impacts identified were rated as MODERATE and these impacts can be reduced using the recommended mitigation measures to LOW post-mitigation impacts.

12.2.6 No-go Impact Assessment

The negative impacts identified when assessing the NO-GO alternative related to the road not being upgraded and safety of road users being compromised and the socio-economic negative impacts of loss of temporary job opportunities during the construction phase.

Table 12-6: Impacts associated with the No-go alternative.

	PRE-MITIGATION				POST-MITIGATION			
	LOW	MODERATE	HIGH	VERY HIGH	LOW	MODERATE	HIGH	VERY HIGH
TOTAL	**+1**	**1(+1)**	**1**	**0**	**+1**	**1(+1)**	**1**	**0**

12.3 OVERALL SITE SENSITIVITY

All sites have been assessed by various specialists, and this information has been analysed spatially and then used to inform the most environmentally acceptable layout for the borrow pit sites. The layouts are based on an overall sight rate of **LOW**.

12.4 CONSIDERATION OF ALTERNATIVES

Chapter 6 provides a detailed comparison of alternatives for the proposed borrow pit sites. It should be noted that the assessment of alternatives does not consider those alternatives that are not deemed to be either **reasonable** or **feasible.**

12.4.1 Location Alternatives

The current locations (preferred alternative) are the only alternatives assessed in the impact assessment process. Alternative locations for the proposed mining sites are limited and probably not reasonable or feasible due to inappropriate geology (critical aspect).

12.4.2 Technology Alternatives

The technology alternatives considered in Chapter 6 are a crushing and screening area on site (preferred) and a crushing and screening area offsite (not feasible). Only the former is assessed in the impact assessment as the latter is not considered to be economically viable.

12.4.3 Layout Alternatives

The current layouts (preferred alternative) are the only layout alternatives assessed in the impact assessment. The proposed layouts have been subjected to environmental screening and is based on ideal geological conditions and a lower heritage sensitivity.

13 CONCLUSION, EAP OPINION AND RECOMMENDATIONS

In terms of APPENDIX 3(3) of the EIA Regulations (2014), an Environmental Impact Assessment Report must include –

(m) Based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;

(o) Any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation.

(p) A description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;

(q) A reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;

(r) Where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;

(s) An undertaking under oath or affirmation by the EAP in relation to:

- **The correctness of the information provided in the reports;**
- **The inclusion of comments and inputs from stakeholders and I&APs;**
- **The inclusion of inputs and recommendations from the specialist reports where relevant; and**
- **Any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;**

In line with the above-mentioned legislative requirement, this Chapter of the EIR provides the recommended mitigation measures, uncertainties or gaps in knowledge, the EAP's opinion as to whether or not the activity should be authorised and the reason(s) for this opinion as well as an undertaking by the EAP.

13.1 DESCRIPTION OF THE PROPOSED ACTIVITY

The South African National Roads Agency SOC Ltd. (SANRAL) are proposing the Upgrade on National Route R63 Section 16 between N6 Bridge (Km 1.0) and the N2 past Komga (Km 43.64) within the Great Kei Municipality in the Eastern Cape Province.

SANRAL require 8 mining sites to supply the necessary rock material for the road construction. Four quarries and 4 borrow pits have been identified within the general Komga area within the Great Kei Municipality, Eastern Cape. This Environmental Impact Assessment (EIA) assesses the eight mining sites only as the road upgrade will be assessed in a separate EIA process.

13.2 DESCRIPTION OF THE PROPOSED ACTIVITY

The following assumptions have been made during the EIA process:

- The information provided by SANRAL and their respective consultants (Mariswe Consulting Engineers/EWP) is assumed to be correct.
- The layout provided by Mariswe Consulting Engineers is preliminary, and might undergo changes in response to the recommendations contained in this report.

13.3 Opinion of the EAP

Although a number of significant impacts are associated with the proposed mining sites and associated infrastructure, it is the professional opinion of EOH and the specialists that:

- The vast majority of environmental impacts identified can be adequately mitigated to reduce the impacts to an acceptable level, provided mitigation measures recommended in this report are implemented and maintained throughout the life of the project.
- The implementation of mitigation measures and recommendations must be consistently monitored by a fulltime onsite Environmental Manager (EM) during construction/operation.
- Annual environmental audits must be conducted by an independent Environmental Officer (EO) on an annual basis. These audits must be submitted to DMR for review.
- The recommendations made by all specialists and the EAP in the EMPr (Appendix D) must be implemented.
- The information in the report is sufficient to allow DMR to make an informed decision.

It is the opinion of EOH that NO FATAL FLAWS are associated with the proposed mining sites.

13.4 Recommendations of the EAP

It is the opinion of EOH that the proposed mining sites should be approved provided that appropriate mitigation measures are implemented and that the EMPr is implemented, maintained and adapted to incorporate relevant legislation, standard requirements and audit reporting, throughout the life all the mining sites.

The mitigation measures for all impacts identified in the EIA are provided in the detailed impact assessment in Appendix B and have been incorporated into the EMPr (Appendix D).

The EMPr must be implemented by the relevant parties during all phases of development of the project i.e. Planning & Design, Construction, Operational (or Mining) and Closure/Decommissioning phase.

Inclusions, additions and adaptations of the EMPr, as well as all final plan drawings and maps must be submitted to DMR (Port Elizabeth) for final approval.

Recommended mitigation measures

Theme	Mitigation measure
Planning and Design Phase	
GENERAL	
Eastern Cape Biodiversity Conservation Plan (ECBCP)	The planning and design of the proposed mining sites must adhere to the recommendations of the ECBCP, *where possible.*
Amathole District Municipality (ADM) Integrated Development Plan	The planning and design of the mining sites associated with the National Route R63 Section 13 should be consistent with the IDP.
Great Kei Local Municipality (GKLM) SDF and IDP	The design of the National Route R63 Section 16 must be consistent with the Great Kei Local municipality SDF and IDP
Compliance with relevant environmental legislation and policy	All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy. These should include (but are not restricted to): MPRDA, NEMA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.
Design of the mining pits	The mining sites must be designed by an appropriately qualified engineer.
Disturbance to the topography of the study area	During the planning and design phase an appropriate mining rehabilitation and closure plan must be developed.
Stormwater	Appropriate stormwater structures must be designed and implemented. All stormwater structures must be designed in line with SANRAL and DWS requirements.
HERITAGE	
Impact on sites of archaeological and cultural significance	All access roads, construction activity and planned mining activities must avoid the identified heritage sites. The mitigation measures in the Heritage Impact Assessment specific to each identified sensitive site, must be considered during the planning and Design phase. Where damage to these sites is unavoidable, permits must be obtained prior to the construction phase.
PALEONTOLOGICAL	
Paleontological findings	During the planning and design phase the ECO and contractor must be made aware of potential fossil findings. They should familiarise themselves with the sort of fossils they may be found in this area.
ECOLOGICAL	
Disturbance of sensitive areas	A buffer zone of 32 metres must be kept from all perennial and non-perennial rivers. No development activities may occur within this area. If any construction or mining activity takes place inside or within 32 meters of any water body, authorisation from DWS must be obtained.
Loss of endangered and protected vegetation	The mining areas must be surveyed prior to topsoil removal in order to locate SCC and transplant them into the neighbouring undeveloped environment. A Plant Rescue & Protection Plan must be implemented and managed by a vegetation specialist familiar with the site in consultation with the appointed EM. The prescribed financial provision for rehabilitation (based on the

Theme	Mitigation measure
	quantum calculation for rehabilitation) must be submitted to DMR.
Construction Phase	
GENERAL	
Visual intrusion associated with the establishment of the borrow pit sites	All construction activity should take place during daylight working hours (i.e. 7 – 5pm). All construction activity and equipment must be limited to the demarcated areas.
Sanitation facilities	Sanitation facilities must NOT be located within 50m of any water resources or water drainage areas. Sanitation facilities must be located within the mining sites footprints. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.
Demarcation of borrow pit sites	The boundaries of the borrow pit sites must be adequately demarcated to restrict construction and other (eating, washing and ablution) activities. All plant, equipment and other materials must remain within the demarcated boundaries. The sites must be access controlled with a lockable gate and security monitoring movements
Waste management	Ensure there are sufficient containers for collecting waste. No waste must be buried on site. Waste must be collected on a regular basis and disposed of at a licensed landfill site.
HERITAGE	
Impact on sites of archaeological and cultural significance	• If any graves/heritage features are damaged during construction then construction must stop immediately. • Any damage to heritage features must be reported to the EM, Heritage Specialist and SAHRA. • If human graves are uncovered during construction then all activity must stop immediately. • The police and ECPHRA must to be notified immediately. • If any other archaeological artefacts are uncovered during construction then construction must stop and these should be reported to the EM, Heritage Specialist and SAHRA/ECPHRA immediately. • The mitigation measures in the Heritage Impact Assessment (P.12-56), specific to each identified sensitive site, must be implemented during the construction phase to avoid damage to the sensitive sites. Where damage to these sites is unavoidable, permits must be obtained prior to the construction phase.
PALEONTOLOGICAL	

Theme	Mitigation measure
Palaeontological Findings	• The ECO and contractor for this project must be made aware of the fact that the Lower Beaufort Group sediments may contain fossil remains, albeit mostly exposed during infrastructure development. • Should important new fossil remains be exposed during construction, the contractor must report this to the ECO and ECPHRA immediately.
ECOLOGICAL	
Loss of natural vegetation	• The construction footprint must be surveyed and demarcated prior to construction commencing to ensure that there is no unnecessary loss of natural vegetation outside the approved road upgrade footprint. • Where vegetation has been cleared, site rehabilitation in terms of soil stablisation and revegetation must be undertaken.
Rehabilitation of disturbed areas	• All temporarily impacted areas must be rehabilitated back to their original condition. • Only topsoil from the immediate area must be used for rehabilitation. • All temporarily impacted areas must be restored as per the Rehabilitation Management Plan.
AQUATIC	
Material Stockpiling	• During the construction phase no construction material must be stored within 50m of a watercourse. • Stockpiles within 100m of watercourses must be monitored for erosion and mobilisation of materials towards watercourses. If this is noted by an ECO, suitable cut-off drains or berms must be placed between the stockpile area and the nearest watercourse.
Water Quality	• During the construction phase no concrete mixing must take place within 32 m of any river bank or wetland system. • A serviced fire extinguisher (to neutralise pH levels if a spill occurs) must be available on site in the event that wet concrete is accidentally spilled into the river. • The mitigation measures in the Aquatic Assessment (Appendix A) must be used in conjunction with this report During the construction phase no machinery must be parked overnight within 50 m of the rivers/wetlands. • All stationary machinery must be equipped with a drip tray to retain any oil leaks. • Chemicals used for construction must be stored safely on bunded surfaces in the construction site camp. • Emergency plans must be in place in case of spillages onto road surfaces or within water courses. • No ablution facilities should be located within 50 m of any river or wetland system. • Chemical toilets must be regularly maintained/ serviced to prevent ground or surface water pollution.
Impact on integrity of dams	• During the construction phase no stockpiles should be placed within the 50 m dam buffer.

Theme	Mitigation measure
	• No ablution facilities must be located within the 50 m dam buffer. • There should be no destruction of dam walls or excavation within the 50 m dam buffer.
Operation Phase	
GENERAL	
Compliance with relevant environmental legislation and policy	The proponent must ensure that mining is compliant with the relevant legislation and policy. These should include (but are not restricted to): MPRDA, NEMA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.
Visual intrusion associated with mining activities	Mining activities should only take place during normal work hours (7am to 5pm). Mining activities must be limited to the designated areas and not encroach into surrounding areas.
Sanitation facilities	Sanitation facilities must be located more than 50m from any water resources or water drainage areas. Sanitation facilities must be located within the borrow pit footprints. The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.
Demarcation of mining sites	The boundaries of the borrow pit sites must be adequately demarcated to restrict mining and other (eating, washing and ablution) activities. All plant, equipment and other materials must remain within the demarcated boundaries. The sites must be access controlled with a lockable gate and security monitoring movements
Storm water	Water runoff must be controlled and the stormwater management plan implemented.
Spillage of hazardous substances	• All oils, fuel and other maintenance equipment and supplies must be stored in a secure area with a compacted surface. • Spill kits must be kept on-site and maintained and stored more than 50 m away from any water course.
Dust control	• During windy periods un-surfaced and un-vegetated areas should be dampened down. • Vegetation should be retained where possible as this will reduce dust travel. • Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. • A speed limit of 30km/h must not be exceeded on dirt roads. • Any complaints or claims emanating from the lack of dust control must be attended to immediately.
Noise	• Drilling, blasting and movement of heavy machinery should be limited to normal working hours (7 AM to 5 PM). • Ensure there is a facility for nearby residents to make complaints. These must be addressed and recorded.
Waste management	• Sufficient waste containers must be available. • No waste must be buried on site. • Waste must be collected on a regular basis and disposed of at a

Theme	Mitigation measure
	licensed landfill site.
HERITAGE	
Identification of archaeological and sites of cultural significance	• If human graves are uncovered during mining then all activity must stop immediately. • The police and ECPHRA must to be notified immediately. • If any other archaeological artefacts are uncovered during mining activity then mining must stop and these should be reported to the EM, Heritage Specialist and SAHRA/ECPHRA immediately.
PALEONTOLOGICAL	
Palaeontological Findings	• The ECO and contractor for this project must be made aware of the fact that the Lower Beaufort Group sediments may contain fossil remains, albeit mostly exposed during infrastructure development. • Should important new fossil remains be exposed during construction, the contractor must report this to the ECO and ECPHRA immediately.
ECOLOGICAL	
Loss of endangered and protected vegetation	• All areas that will be impacted must be surveyed by a suitably qualified botanist/ecologist prior to topsoil removal in order to locate and rescue any SCC within the area and relocate them. • No SCC must be removed from site. All SCC must be relocated immediately outside of the construction and operational footprint. • The contractor's staff must not poach or trap wild animals. • The contractor's staff must not harvest any natural vegetation.
Inadequate rehabilitation	• A Rehabilitation Management Plan must be implemented. • An Alien Removal Plan must be implemented and run during the operational phase.
Impact on surrounding fauna and flora	The mining areas must be clearly demarcated/ fenced in. No mining activity must extend beyond the demarcated areas.
AQAUTIC	
Stormwater management	Stormwater infrastructure should be monitored post construction to ensure rivers and wetlands do not have changes in sediment levels caused by the ingress of sediment-laden stormwater
Decommissioning/Closure Phase	
GENERAL	
Final rehabilitation and decommissioning	• All infrastructure, equipment, machinery and other items used during the mining period must be removed from the sites. • Waste material of any description, including receptacles, scrap, rubble and tyres, must be removed entirely from the mining area and disposed of at a recognized landfill facility. No waste must be buried or burned on the sites. • The mining sites access roads, storm water control areas and any other affected areas must be rehabilitated. • The sites must be covered with locally occurring grass and shaped/ levelled correctly. • All exposed areas must be re-vegetated where possible. • Mining areas must be inspected weekly for soil stability until rehabilitation is complete.

Theme	Mitigation measure
	• Alien invasive plant species must be eradicated until rehabilitation is complete. • The closed mining sites must pose no safety risks. • Rehabilitation must be completed in such a manner that the land can be optimally used post-mining. • Final rehabilitation must be completed within a period specified by the Regional Manager (DMR).
Closure	• Closure must comply with the MPRDA (Act 28 of 2002), NEMA (Act 107 of 1998) and the NEMA Regulations (2014) requirements for mine closure. • A closure plan must be compiled using the guidelines described in Appendix 5 of the NEMA Regulations (2014) and submitted to DMR. • A closure certificate must be obtained from the Minister of Mineral Resources.

Declaration by the EAP

I, _____

declare that:

- I act as the independent environmental practitioner in this application;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this report are true and correct; and
- I realise that a false declaration is an offence in terms of regulation 48 and is punishable in terms of section 24F of the Act.

_____

Signature of the EAP:

_____

Name of company (if applicable):

_____

Date:

14 ADDITIONAL INFORMATION

In terms of APPENDIX 3(3) of the EIA Regulations (2014, as amended), an Environmental Impact Assessment Report must include –

(t) Where applicable, details of any financial provisions for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts;

(u) An indication of any deviation from the approved scoping report, including the plan of study, including-

- **Any deviation from the methodology used in determining the significance of potential environmental impacts and risks;**
- **And a motivation for the deviation.**

(v) Any specific information that may be required by the competent authority;

(w) Any other matters required in terms of section 24(4)(a) and (b) of the Act.

14.1 FINANCIAL PROVISIONS FOR REHABILITATION

SANRAL are required to submit an undertaking and commitment to rehabilitation. This includes a quantum calculation for financial provision for rehabilitation (based on the DMR "Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provision provided by a mine", 2005). This financial provision will be submitted to DMR.

15 REFERENCES

AGIS online (www.agis.agric.za/agisweb/agis.html).

National Environmental Management Biodiversity Act (No. 24 of 2004): Alien and Invasive Species (2016).

Constitution Act (No. 108 of 1996).

Eastern Cape Biodiversity Conservation Plan.

Eastern Cape Vision 2030 Provincial Development Plan.

Hazardous Substances Act (No. 15 of 1973).

Integrated Development Plan (2013/2014). Nkonkobe Local Municipality.

Mineral and Petroleum Resources Development Act (No. 28 of 2002).

Mucina, L. & Rutherford, M.C. (eds). 2006. The vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African National Biodiversity Institute, Pretoria.

NPC National Development Plan 2030.

National Environmental Management Act (No. 107 of 1998).

National Environmental Management: Air Quality Act (No. 39 of 2004).

National Environmental Management: Biodiversity Act (No. 10 of 2004).

National Environmental Management: Protected Areas Act (No. 57 of 2003).

National Environmental Management: Waste Management Act (No. 59 of 2008).

National Forests Act (No. 84 of 1998).

National Heritage Resource Act (No. 25 of 1999).

National Water Act (No. 36 of 1998).

Occupational Health and Safety Act (No. 85 of 1993).

StatsSA (http://www.statssa.gov.za/).

16 APPENDICES

16.1 APPENDIX A: PUBLIC PARTICIPATION DOCUMENTS

16.1.1 Newspaper advert

Copy of newspaper advert placed:

EOH Coastal & Environmental Services

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT

PROPOSED UPGRADE OF NATIONAL ROUTE R63 SECTION 16 BETWEEN N6 BRIDGE (KM 1.0) AND THE N2 PAST KOMGA (KM 43.64) IN THE AMATHOLE DISTRICT MUNICIPALITY

Notice is hereby given in terms of Regulation 41(2) published in Government Notice No. R 982 under Chapter 5 of the National Environmental Management Act (No. 107 of 1998; NEMA) of the intent to submit an application for environmental authorisation to the Department of Economic Development, Environmental Affairs and Tourism (DEDEAT).

Proponent, Activities and Location:

South African National Roads Agency SOC Limited (SANRAL) is proposing the upgrade of the National Route R63 Section 16 between N6 bridge (km 1.0) and the N2 past Komga (km 43.64) in the Amathole District Municipality of the Eastern Cape province.

NEMA Listed Activities:

A Basic Assessment is triggered by the following listed activities:

- **LISTING NOTICE 1:GN R. 983: 12 a and c (iii), (vi), (xii) and (a) (c); 19 (i); 24 (ii); 56 (i), (ii)**
- **LISTING NOTICE 3: GN R. 985: 14 (iii) and (xii) (a) and (c) c (ii) f, (iii) aa; 18 b (ii) ee (iii) cc; 23 (iii) (a), (c) b (ii) ee**

The construction of seven (7) mining sites and associated activities require a FULL SCOPING and ENVIRONMENTAL IMPACT ASSESSMENT (EIA) process due to the following triggers:

- **LISTING NOTICE 2: GN R. 984: 17**
- **LISTING NOTICE 2: GN R. 984: 21**

The construction of the mining sites and associated activities will require authorisation from the Department of Mineral Resources (DMR) and the road upgrade will require authorisation from the Department of Environmental Affairs (DEA). Water use authorisation will also be required from the Department of Water and Sanitation (DWS) in

Proof of newspaper advertised in the Daily Dispatch:

16.1.2 Background Information Document

ENVIRONMENTAL IMPACT ASSESSMENT: UPGRADE OF NATIONAL ROUTE R63 SECTION 16 AND ASSOCIATED MINING APPLICATIONS, BETWEEN N6 BRIDGE (KM 1.0) AND THE N2 PAST KOMGA (KM 43.64) IN THE AMATHOLE DISTRICT MUNICIPALITY OF THE EASTERN CAPE PROVINCE

BACKGROUND INFORMATION DOCUMENT (BID) & INVITATION TO COMMENT

Return address for comments:

Roy De Kock
EOH Coastal & Environmental Services
25 Tecoma Street,
Berea, East London
P.O Box 8145,
Nahoon, East London, 5210
Tel: (043) 726 7809
Fax: (043) 726 8352
Email: roy.dekock@eoh.co.za

EOH Coastal & Environmental Services

AIM OF THIS DOCUMENT

The purpose of this document is to ensure that **people that are interested in** or **affected by the proposed project** are **provided with information about the proposal, the process being followed** and **provided with an opportunity to be involved** in the EIA process for the proposed Upgrade of National Route R63 Section 16 between the N6 bridge (km 1.0) and the N2 past Komga (km 43.63).

Registering as an **Interested and/or Affected Party** (I&AP) allows individuals or groups the opportunity to **contribute ideas, issues, and concerns relating to the project**. I&APs also have an opportunity to **review all of the reports and submit their comments** on those reports. All of the comments that are received will be included in the reports that are submitted to the Competent Authority.

THE PROPONENT

The South African National Roads Agency SOC Limited (SANRAL) is an independent, statutory company registered in terms of the Companies Act. The South African government is the sole shareholder and owner of SANRAL. SANRAL provides finance, improves, manages and maintains the national road network in South Africa.

THE ENVIRONMENTAL ASSESSMENT PRACTITIONER

EOH Coastal and Environmental Services (EOH) was established in 1990 as a specialist environmental consulting company and has considerable experience in terrestrial, marine and freshwater ecology, the Social Impact Assessment (SIA) process, State of Environment Reporting (SOER), Integrated Waste Management Plans (IWMP), Environmental Management Programme (EMPr), Spatial Development Frameworks (SDF), public participation, as well as the management and co-ordination of all aspects of the Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) processes. EOH has been active in all of the above fields, and in so doing have made a positive contribution towards environmental management and sustainable development in the Eastern Cape, South Africa and many other African countries. We believe that a balance between development and environmental protection can be achieved by skilful, considerate and careful planning.

THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

According to the EIA regulations (2014) promulgated under the National Environmental Management Act (NEMA, Act No.107 of 1998) the potential impacts on the environment will have to be assessed in terms of the listed activities. The SANRAL National Route R63 Section 16 triggers listed activities (table 1) in terms of the NEMA EIA Regulations (2014) as per Government Gazette R983, R984 and R985, and as such requires the completion of a **Full Scoping and Environmental Impact Assessment** which will be undertaken in accordance with Regulation 6 of the EIA Regulations (2014). The competent authority for this application will be the National Department of Environmental Affairs (DEA).

The proposed National Route R63 Section 16 road upgrade occurs within 32 metres of numerous watercourses and within 500 metres of numerous wetlands. Water use licensing will therefore be required, in terms of the National Water Act (Act No.36 of 1998) from the Department of Water and Sanitation (DWS), for all of the water crossings along the National Route R63 Section 16.

The development of seven (7) mining sites for building material during the construction phase of the R63 Section 16 road upgrade will trigger listed activities in terms of Regulation 27 of the Mineral and Petroleum Resources Development Act (MPRDA, Act No. 28 of 2002) and will therefore require the submission of a mining application to the Department of Mineral Resources (DMR). The mining sites also trigger listed activities in terms of NEMA EIA Regulations (2014) as per Government Gazette R984 and require the completion of a separate **Full Scoping and Environmental Impact Assessment** which will be undertaken in accordance with Regulation 6 of the EIA Regulations (2014). The competent authority for this application will be the DMR.

Table 1: Listed Activities which require Environmental Authorisation for the road upgrade section.

LISTING NOTICE 1: *Activities require a Basic Assessment*
LISTED ACTIVITIES
GN R. 983: 12 a and c (iii), (vi), (xii) The development of – (iii) bridges exceeding 100 square metres in size; (vi) bulk storm water outlet structures exceeding 100 square meters in size; (xii) infrastructure or structures with physical footprint of 100 square metres or more; Where such development occurs- (a) within a watercourse; and/or (c) within 32 metres of a watercourse, measured from the edge of a watercourse.
GN R. 983: 19 (i) The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from- (i) a watercourse.
GN R. 983: 24 (ii) The development of – (ii) a road with a reserve wider than 13, 5 metres, or where no reserve exists where the road is wider than 8 metres
GN R. 983: 56 (i), (ii) The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13, 5 metres; and/or *(ii)* where no reserve exists, where the existing road is wider than 8 metres.
LISTING NOTICE 3: *Activities require a Basic Assessment*
Listed Activities
GN R. 985: 14 (iii) and (xii) (a) and (c) c (ii) ff, (iii) aa The development of – (iii) bridges exceeding 10 square metres in size; and/or (xii) infrastructure or structures with a physical footprint of 10 square metres or more; Where such development occurs – (a) within a watercourse; and/or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. c) In the Eastern Cape: (ii) Outside urban areas, in: (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; and/or (iii) In urban areas: (aa) Areas zoned for use as public open space.
GN R. 985: 18 b (ii) ee (iii) cc The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre – b) In the Eastern Cape: (ii) Outside urban areas, in: (ee) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; and/or (iii) Inside urban areas: (cc) Areas zoned for use as public open space.
GN R. 985: 23 (iii) (a), (c) b (ii) ee The expansion of – (iii) Bridges where the bridge is expanded by 10 square metres or more in size Where such development occurs – (a) within a watercourse; and/or (c) if no development setback has been adopted, within 32 metres of a watercourse, measured from the edge of a watercourse. b) In the Eastern Cape: (ii) Outside urban areas, in: (ee) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.

Table 2: Listed Activities which require Environmental Authorisation for the mining application section.

LISTING NOTICE 2: *Activities (borrow pits) require a Full Scoping and EIR*
LISTED ACTIVITIES
GN R. 984: 17 Any activity including the operation of the activity which requires a mining right as contemplated in Section 22 of the Mineral and Petroleum Development Act, 2002 (Act No 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an extension has been issued in terms of section 106 of the Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002).
GN R. 984: 21 Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of a mineral resource

APPROACH TO THE EIA PROCESSES

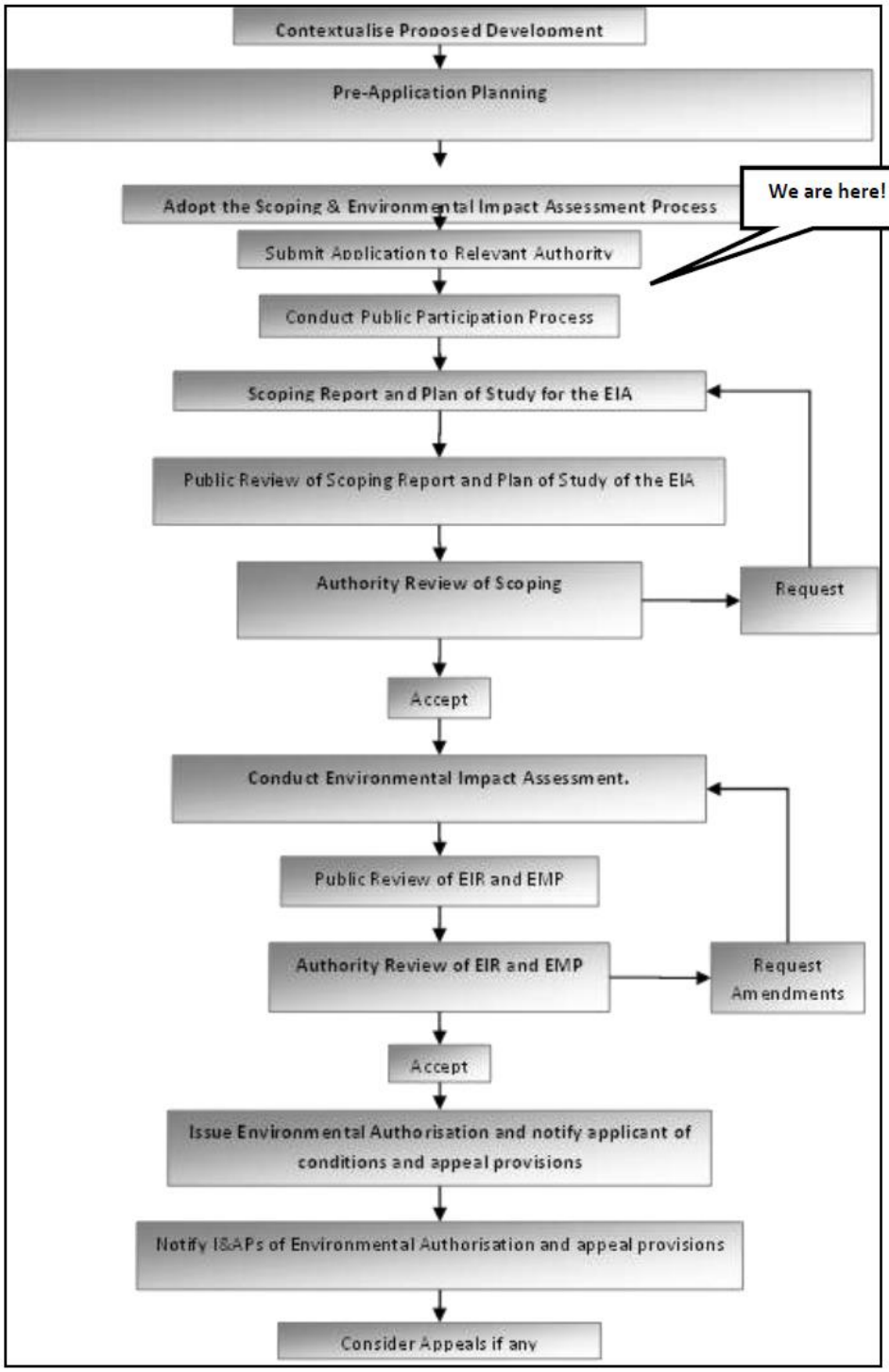
The EIA process required for the ***road upgrade section*** of the Proposed Upgrade of National Route R63 Section 16 between the N6 Bridge (km 1.0) and the N2 past Komga (km 43.63) is a BAR.

The EIA process required for the ***associated mining application section*** of the Proposed Upgrade of National Route R63 Section 16 between the N6 Bridge (km 1.0) and the N2 past Komga (km 43.63) is a Full scoping and EIR.

Both these EIA processes are managed concurrently and in parallel, therefore the timelines will be similar for both.

SANRAL is exempted from submitting a full mining application to the DMR as per Section 106 of the MPRDA, therefore they are only required to submit an EMPr as part of their application. This can only be done after obtaining an Environmental Authorization from the DMR.

Below is an illustration on both processes and where we are currently.


Contextualise Proposed Development
Pre-Application Planning
Adopt the Scoping & Environmental Impact Assessment Process
We are here!
Submit Application to Relevant Authority
Conduct Public Participation Process
Scoping Report and Plan of Study for the EIA
Public Review of Scoping Report and Plan of Study of the EIA
Authority Review of Scoping
Request
Accept
Conduct Environmental Impact Assessment.
Public Review of EIR and EMP
Authority Review of EIR and EMP
Request Amendments
Accept
Issue Environmental Authorisation and notify applicant of conditions and appeal provisions
Notify I&APs of Environmental Authorisation and appeal provisions
Consider Appeals if any

PROJECT DESCRIPTION

The project is situated on National Road R63, section 16 between N6 Bridge (km 1.0) and the N2 past Komga (km 43.64).

The major aspects of this project include the following:

- The upgrade of the portion of R63 section 16 between km 1,0 and km 43.64, including vertical and horizontal alignment, and re-surfacing thereof;
- Widening of the current road prism to a SANRAL design standard and to a standard cross section up to 13.4m;
- Lengthening of major and minor drainage structures, widening of four bridge structures;
- Construction of one new bridge structure;
- Upgrading of a major intersection at R63/N2 T-junction: ± km43,64;
- Replacement of concrete lined drains to suit new design levels;
- Investigation of a void/sinkhole which extends some 3m beneath the road near km18.4.

POTENTIAL IMPACTS AND BENEFITS

EOH will assess the impacts of the proposed activity on the environment. Impacts will be assessed for the various alternatives; including the preferred alternative and the "No-Go" alternative. Impacts will be assessed for the planning and design phase, construction phase and operational phase.

HOW CAN YOU BE INVOLVED?

A Public Participation Process (PPP) is being conducted as part of the environmental process for both the road upgrade as well as the borrow pit applications. The aim of the PPP is to allow everyone who is interested in, or likely to be affected by the proposed development to provide input into the process.

The Public Participation Process includes:

- Advertisement in The Daily Dispatch;
- Onsite Signage;
- Circulation of the BID *(this document)* to all identified I&APs and stakeholders;
- Comments period;
- Review of the reports by all registered I&APs and stakeholders; and a
- A public meeting *(If required)*.

If you consider yourself an interested and/or affected person/party, it is important that you become and remain involved in the PPP. In order to do so please follow the steps below in order to ensure that you are continually informed of the project developments and will ensure your opportunity to raise issues and concerns pertaining to the project.

STEP 1: Please register by responding to our notification and invitation, with your name and contact details (details provided on cover page and below). As a registered I&AP you will be informed of all meetings, report reviews and project developments throughout the EIA process.

STEP 2: Register by returning the slip at the back of this document to EOH.

STEP 3: Attend any meetings that may be held during the EIA process. As a registered I&AP, you will receive an invitation to attend such meetings.

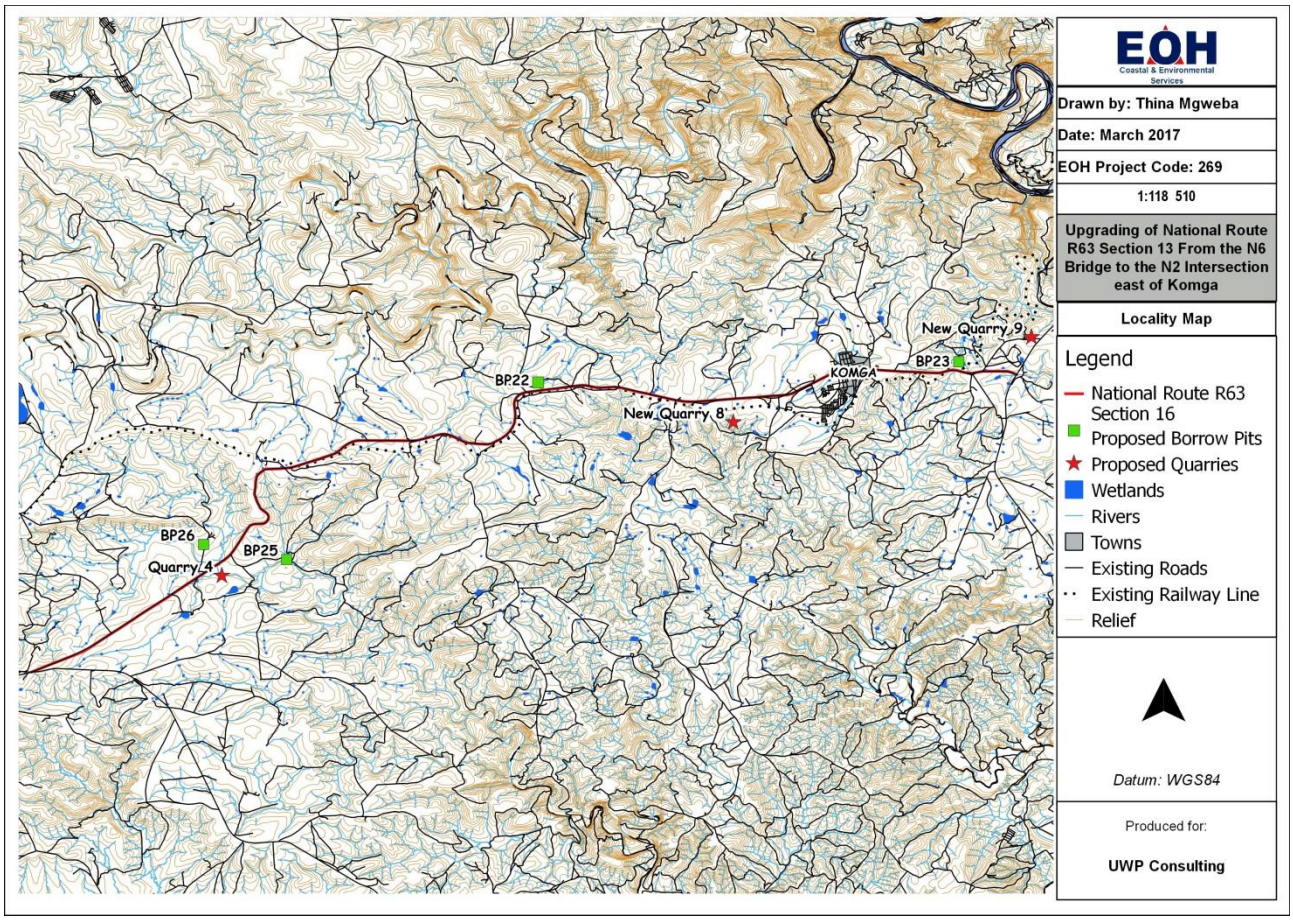
EOH is required to engage with all private and public parties that may be interested and/or affected by the proposed road upgrade, in order to distribute information for review and comment in a transparent manner.

In the same light, it is important for I&APs to note the following:

1. In order for EOH to continue engaging with you, please ENSURE that you register on our database by contacting the person below.
2. As the EIA process is regulated by specific review and comment timeframes, it is your responsibility to submit your comments within these timeframes.

Please send your enquiries and/or comments to:

Roy De Kock
25 Tecoma Street,
Berea, East London, 5214
P.O Box 8145,
Nahoon, East London, 5210
Tel: (043) 726 7809/8313
Fax: (043) 726 8352
Email: roy.dekock@eoh.co.za



I hereby wish to register as an Interested and Affected Party (I&AP) for the proposed

Upgrade of National Route R63 Section 16 and Associated Mining Applications, Between N6 Bridge (Km 1.0) And The N2 Past Komga (Km 43.64) EIA process

Name & Surname:

_____

Organisation:

_____

Postal Address:

_____

_____

Email:

_____

16.1.3 Letter of Notification

EOH
Coastal & Environmental Services

March 2017

Dear Stakeholder

NOTICE: UPGRADE OF NATIONAL ROUTE R63 SECTION 16 AND ASSOCIATED MINING APPLICATIONS, BETWEEN N6 BRIDGE (KM 1.0) AND THE N2 PAST KOMGA (KM 43.64) IN THE AMATHOLE DISTRICT MUNICIPALITY OF THE EASTERN CAPE PROVINCE

Proponent: SANRAL (South African National Roads Agency SOC Ltd.) is proposing the rehabilitation of National Route R63 Section 16 between N6 bridge (km 1.0) and the N2 past Komga (km 43.64) in the Amathole District Municipality of the Eastern Cape province. UWP Consulting Engineering has been appointed by SANRAL as the project Engineers who subcontracted EOH Coastal and Environmental Services (EOH) as the Environmental Assessment Practitioner (EAP).

Activity: The proposed development will consist of the construction of various safety improvements and road realignments over 42km of the R63. These improvements include the reconstruction of the existing road, including widening and re-alignment both within and outside the current road reserve where necessary. The process will also include a Water Use License Application as regulated by the National Water Act (Act No. 36 of 1998), and a mining license as regulated by the Minerals and Petroleum Resources Development Act (Act No. 28 of 2002).

An additional EIA will also be required as part of the mining application to DMR and will be run concurrent to the road upgrade EIA.

As a stakeholder, your involvement in the public participation process is vital and thus it is very important for us, as the EAP, to maintain an open and inclusive channel of communication with you.
Public Participation: A critical element of the Environmental Impact Assessment (EIA) is the Public Participation process. The objective is to contact, notify and inform as many stakeholders and members of the community, who may be interested and/or affected by the proposed road upgrade and re-alignment, as possible so that any such party may fully participate in, interact with and inform the EIA process.
It would be greatly appreciated if you would provide us with the contact details of any other person(s) you are aware of, that would be interested in or affected by this development.
This letter of notification serves to inform you, in terms of Regulation 54 of the Regulations published in Government Notice No. R 982 under Chapter 6 of the National Environmental Management Act (Act 107 of 1998), as amended 2014, of the intention to carry out a Full Scoping and Environmental Impact Assessment for approval by the authorities of the Department of Environmental Affairs (DEA, Pretoria).

For more information, registration as an Interested and Affected Party (I&AP), or submission of written comments, please contact us within 30 days of this notice using the phone, fax, post or email details provided on the back of the document.

EOH Coastal & Environmental Services
Attn: Miss Thina Mgweba
PO Box 8145, Nahoon
East London, 5210

Tel: 043 726 7809
Fax: 043 726 8352
E-mail: t.mgweba@cesnet.co.za

I look forward to hearing from you.

Kind regards,
Thina Mgweba

Consulting | Technology | Outsourcing

EOH Coastal and Environmental Services
tel: +27 43 726 7809 | Fax: +27 43 726 8352
25 Tecoma Street, Berea, East London 5210
PO Box 8145, East London 5210, South Africa
www.eoh.co.za | www.cesnet.co.za
reg no: 2012/151672/07

16.1.4 Notice Board

The following notice was placed on site:

NOTICE OF ENVIRONMENTAL IMPACT ASSESSMENT

EOH Coastal & Environmental Services

Notice is hereby given in terms of Regulation 41(2) published in Government Notice No. R982 under Chapter 5 of the National Environmental Management Act (No. 107 of 1998) of the intent to submit an application to the Department of Mineral Resources (DMR) for environmental authorization.

Proponent, Project Activity and Location: SANRAL (South African National Roads Agency SOC Ltd.) is proposing the development of four (4) Borrow Pits and three (3) hard rock quarries for the upgrading of National Route R63 Section 16 from the N6 Bridge (Km 1.0) to where it intersects with the N2 past Komga (KM 43.64), in the Eastern Cape Province.

Listed Activities: The proposed project requires a **MINING AUTHORISATION** from the DMR as regulated by the Minerals & Petroleum Resources Development Act (No 28 of 2002; MPRDA). The proposed project will also require a **FULL SCOPING AND ENVIRONMENTAL IMPACT ASSESSMENT** as regulated by the National Environmental Management Act Regulations (No 107 of 1998; NEMA, as amended in 2014) due to the following listed activities:

GN R. 984: 17: Any activity including the operation of the activity which requires a mining right as contemplated in Section 22 of the Mineral and Petroleum Development Act, 2002 (Act No 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an extension has been issued in terms of section 106 of the Mineral and Petroleum Resource Development Act, 2002 (Act No. 28 of 2002).

GN R. 984: 21: Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of a mineral resource.

EOH Coastal & Environmental Services has been commissioned to undertake the Environmental Impact Assessment. You are hereby invited to register as an Interested & Affected Party (I&AP). Please submit your name, contact information and any comments to the contact person below.

The proposed development will include a Water Use License Application as regulated by the National Water Act (Act No. 36 of 1998) and approval from the South African Heritage Resources Agency as regulated by the National Heritage Resources Act (No. 25 of 1999).

For more information, registration as an I&AP or submission of written comments contact by post, phone, fax or e-mail: Ms Thina Mgweba | PO Box 8145, Nahoon, 5210 | Tel: 043 726 7809 | Fax: 043 726 8352 | e-mail: t.mgweba@cesnet.co.za

ISAZISO SOHLOLO LOKUCHAPHAZELEKA KOKUSINGQONGILEYO

EOH Coastal & Environmental Services

Esi Saziso sikhutshwa malunga noMthetho wama-41(2) opapashwe kwiSaziso GN.R982 sikaRhulumente phantsi kweSahluko 5 soMthetho Wokulawula Indalo (Umthetho 107 ka 1998) ngenjongo yokufaka isicelo Sokuhlola Ukuchaphazeleka Kwendalo kwisebe lweZimbiwa.

Uphuhliso olucetywayo, Abenzi bophuhliso nendawo yophuhliso: I-arhente yezendlela yaseMzantsi Afrika (SANRAL) iceba ukuphucula uhola wendlela i-R63 (Section 16) ukusuka kwi bholorho ye ndlela iN6 ukuyotsho kwindlela iN2 ngapha kwase Komgha, eMpuma Koloni. Oluphuhliso luyakuthi ludinge iikwari zesabunge zokuphucula lendlela.

Okudweliswe ngumthetho: Olu phuhliso luyakuthi lufune isicelo sokwemba ilitye njengoko kubhalwe kumthetho wophuhliso lwezimbiwa namafutha kaZwelonke (Umthetho No. 28 ka 2002, MPRDA). Oluphuhliso luphinde lufune uphando lokuchaphazeleka kokusingqongileyo olunzulu phantsi komthetho Wokulawula Indalo (Umthetho 107 ka 1998, njengoko uhlaziyiwe ngo 2014) ngokoluhlu lwezinto ezidweliswe phantsi kwale mithetho:

GN R. 984: 17
GN R. 984: 21

Olu phuhliso luyakuquka ukufakwa kwesicelo sokusetyenziswa kwamanzi ngokomthetho olawula amanzi ka Zwelonke (National Water Act; Act No. 36 of 1998) kuphinde kufuneke nephepha-mvume kwi arhente ejongene namagugu nembali kaZwelonke (South African Heritage Resources Agency) ngokomthetho olawula imbali namagugu kaZwelonke (National Heritage Resources Act; No. 25 of 1999).

Abakwa- EOH Coastal & Environmental Services baqashwe ukuba benze uhlolo lokuchaphazeleka kokusingqongileyo. Uyamenywa ukuba ubhalise njengomntu onomdla nochaphazelekayo. Nceda faka igama lakho inkcukacha esinokuqhagamishelana ngazo nawe kunye nezimvo zakho kulo mntu ubhalwe ngezantsi.

Ngolwazi oluthe vetshe, okanye ukufaka izimvo zakho, nceda qhagamishelana nalo ubhalwe apha: Ms Thina Mgweba | PO Box 8145, Nahoon, 5210 | Ifowuni: 043 726 7809 | Ifeksi: 043 726 8352 | imeyili: t.mgweba@cesnet.co.za

Proof of site notices placed on site

16.1.5 Letter of notification of draft scoping report

EOH
Coastal & Environmental Services

07 December 2018

Dear Stakeholders/Interested & Affected Parties

DMR Reference: EC 30/5/1/3/3/2/1/000114BP EM

RE: NOTIFICATION OF ENVIRONMENTAL IMPACT ASSESSMENT PROCESS AND AVAILABILITY OF THE DRAFT SCOPING REPORT FOR THE UPGRADE ON NATIONAL ROUTE R63 SECTION 16 BETWEEN N6 BRIDGE (KM 1.0) AND THE N2 PAST KOMGA (KM 43.64): 4 QUARRIES AND 4 BORROWPITS WITHIN THE GREAT KEI LOCAL MUNICIPALITY OF THE EASTERN CAPE PROVINCE, SOUTH AFRICA

This letter serves to notify you of the Environmental Impact Assessment (EIA) process for the proposed development of 8 mining sites (4 x quarries and 4 x Borrow pits) along the R63 road between the N6 Bridge and the N2 through the town of Komga, Eastern Cape Province.

The above mentioned development activities trigger listed activities in terms of the National Environmental Management Act (NEMA 107 of 1998) Regulations of 2014 as amended (Listing Notice 2) and as such requires the completion of a Scoping and Environmental Impact Assessment process. **EOH Coastal & Environmental Services** has been commissioned by the South African National Roads Agency SOC Ltd. (SANRAL) to undertake the EIA. An application for an EIA has been submitted to the Department of Mineral Resources (DMR). A separate EIA process will be undertaken for the road upgrade and will be submitted to the Department of Environmental Affairs (DEA).

Kindly note that the draft Scoping Report will be available for public review for a period of 30 days from the **7th of December 2018 to the 28th of January 2018**. This excludes all public holidays as well as a closedown period between the 15th of December 2018 and the 5th of January 2019. A hard copy is available for inspection at the EOH Coastal & Environmental Services East London Office (25 Tecoma Street, Berea). An electronic copy can be downloaded from our website: http://www.cesnet.co.za/public-documents.html and it can also be forwarded via email on request.

For more information, please submit your written comments or register as an I&AP by contacting our office at the details given below.

Attention: Mr Roy de Kock
PO Box 8145
East London
Tel: 043 726 7809/ 8313
Fax: 043 726 8352
E-mail: r.dekock@cesnet.co.za

We look forward to hearing from you.

Kind Regards

Roy de Kock
Principal Environmental Consultant
EOH Coastal & Environmental Services

Consulting | Technology | Outsourcing

Coastal and Environmental Services (Pty) Ltd
tel: +27 43 726 7809 | **Fax:** +27 43 726 8352
25 Tecoma Road Berea, East London 5214

16.1.6 Proof of Notifications:

Reply Reply All Forward

Roy de Kock <r.dekock@cesnet.co.za> 'chrisma@amathole.gov.za'; 'hmayaphi@environment.gov.za'; 'lmafumbu@amathole.gov.za'; + 53 2 2018/11/26

Notification of EIA for the R63 Road upgrade Komga area

You replied to this message on 2018/12/07 14:21.
This message was sent with High importance.

Message Letter of notification - BAR out for public review & public meeting.pdf (554 KB) Background Information Document_R63 Section 16 Komga.pdf (640 KB)

Dear stakeholder, landowner, surrounding landowner and Interested and Affected Parties (I&APs)

Please find attached Letter of Notification (LoN) of a proposed Environmental Impact Assessment (EIA) for the upgrade of the existing R63 road between the N6 Bridge and the N2 east of Komga in the Eastern Cape Province.

Please also take note of the planned public meeting to be held on the 06th December 2018 in Komga, Eastern Cape. All is invited.

I have attached a Background Information Document (BID) for ease of reference but the Draft Basic Assessment Report (BAR) can also be accessed as per the attached LoN.

Please do not hesitate to contact me for any queries.

Regards

Roy de Kock MSc, *Pri.Sci.Nat.*
Principal Environmental Consultant
EOH Coastal & Environmental Services
Leaders in environmental and social advisory services
25 Tecoma street, Berea
East London | Eastern Cape | South Africa
tel: +27 (43) 726 7809 | fax: +27 86 672 4339 | cell: +27 (76) 281 9660
roy.dekock@eoh.co.za | www.eoh.co.za | www.cesnet.co.za
Consulting | Technology | Outsourcing

16.1.7 Attendance registers of meetings held by CES during the EIA for the proposed R63 road upgrade

Name & Surname	Organisation	Email	Telephone Number	Signature
11. BRIDGET CARR	TRAVELA FARM	bridgetcarr55@gmail.com	0726959985	
12. EUGENE OSTEELOH	LINCOLN FARM	ostateltomsa.net	083 6331579	
13. Neil Bowker	Pose Wellington Farm	hartfamily@lantic.net	082 306 1956	
14. Piet Fourie	Holmleigh Farm	pietf2014@gmail.com	0829235849	
15. Helen Compton	Pagbreek Farm	comptonhelen@gmail.com	082 7756294	
16. Bruce Thompson	Thompson Farms.	bruce thom@gmail.com	0845553582	
17. John Acton	Acton Farm Trust	jfacton1@gmail.com	082 372 6811	
18. Siyabonga Sityata	UWP Consulting	Siyabongas@uwp.co.za	043721 0186 073 596 0130	
19. SANDLANA M.	DAFF	Nombulelos@daff.gov	0718765400	
20. COERT KORSTAAN	KOMGA FARMERS ASSC	COERTANDCOLLEEN @HOTMAIL.COM	0843200556	
21. BRYAN RANGER	RANGERTON FARM	rangb@hotmail.com	0725701214	

UWP CONSULTING | CES ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES | ROADS AGENCY SOC LTD

Name & Surname	Organisation	Email	Telephone Number	Signature
22. Mlomli Makesedini	YuSP.	—	0727156790	
23. Gareth Randall	Fairview	randall.gareth@gmail.com	083 511 8911	
24. Marius Potgieter	Ndimba	[illegible]@discoverymail.co.za	083 659 8285	
25. Guy Rensberg	Koksley	koksley@gmail.com	083 942 2643	
26. Rob Cawthorn	Gadzhook	[illegible]@gmail.com	082 415 2790	
27. Roy de Kock	CES	r.dekock@cesnet.co.za	076 251 9660	
28.				
29.				
30.				
31.				
32.				

16.1.8 Meeting minutes:

Coastal & Environmental Services

CES
ENVIRONMENTAL AND SOCIAL ADVISORY SERVICES

East London
26 Tecoma street
East London, 5201
Tel: +27 (43) 742 3302;
Fax: +27 (43) 742 3306
Email: r.dekock@cesnet.co.za

Also in Cape Town, Grahamstown, Port Elizabeth, Johannesburg and Maputu (Mozambique)
www.cesnet.co.za

MEETING MINUTES	
CLIENT	SANRAL and UWP Consulting
DATE	06 December 2018
VENUE	Komga Country Club
TIME OF MEETING	10h00
MINUTES BY	Roy de Kock
CIRCULATION DATE	22 January 2019

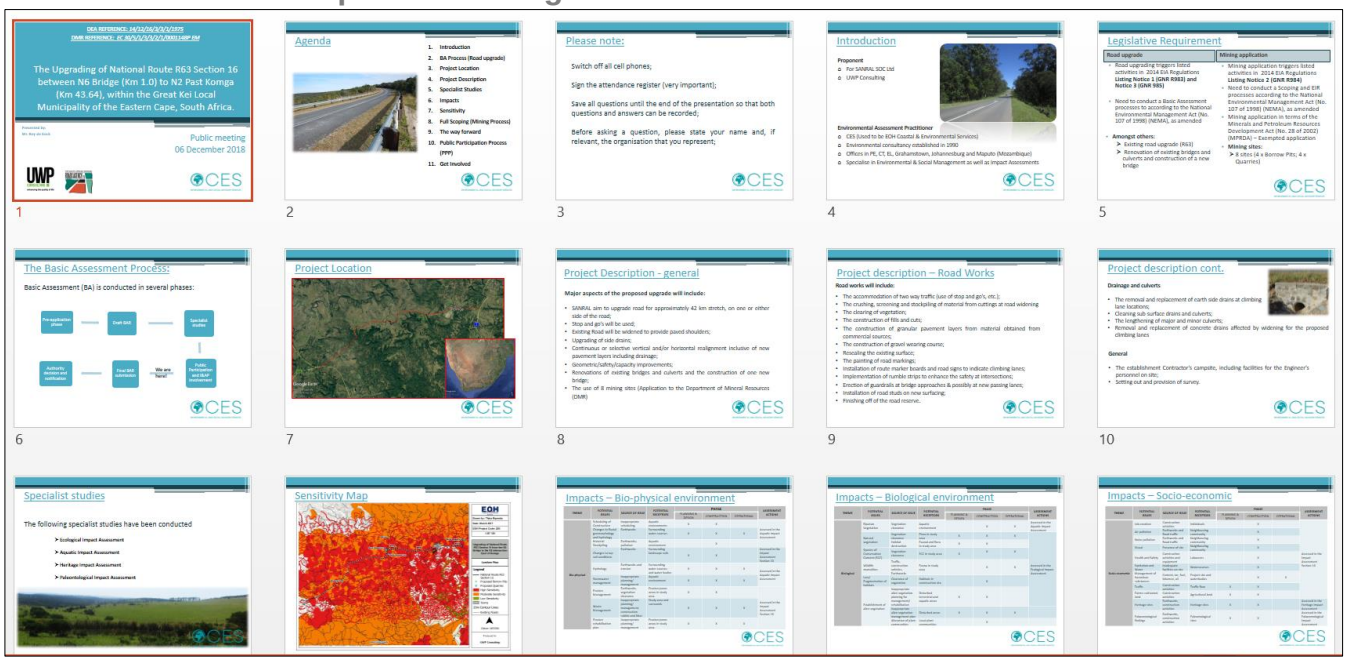
ATTENDED BY NAME	ASSOCIATION	EMAIL ADDRESS
Bridget Carr	Tangla Farm	BridgetcarrS8@gmail.com
Eugene Osterioh	Lincoln Farm	ost@telkomsa.net
Nell Bouwer	Post Wellington Farm	hartfamily@iantic.net
Piet Fourie	Holmleigh Farm	Pietf2014@gmail.com
Helen Compton	Dagbreek Farm	comptohelen@gmail.com
Bruce Thompson	Thompson Farming	brucethom@gmail.com
John Acton	Acton Farm Trust	Jacton1@gmail.com
Siyabonga Sibyata	UWP Consulting	siyabongas@uwp.co.za
Sandiana M.	DAFF	MomnuleloS@daff.gov.za
Coert Jordaan	Komga Farmers Ass.	Coertandcolleen@hotmail.com
Bryan Ranger	Rangerton Farm	rangb@hotmail.com
Mlamhe Makusedini	YUSP	(072 715 6790)
Gareth Randall	Fairflew Farm	Randall.gareth@gmail.com
Marius Potgieter	Ndimba Farm	marichelles@discoverymail.co.za
Guy Rensburg	Koksley Farm	koksley@gmail.com
Rob Cawthorn	Gadzhook Farm	gadzhookfarm@gmail.com
Roy de Kock	CES Environmental	r.dekock@cesnet.co.za
APOLOGIES:		
NONE		

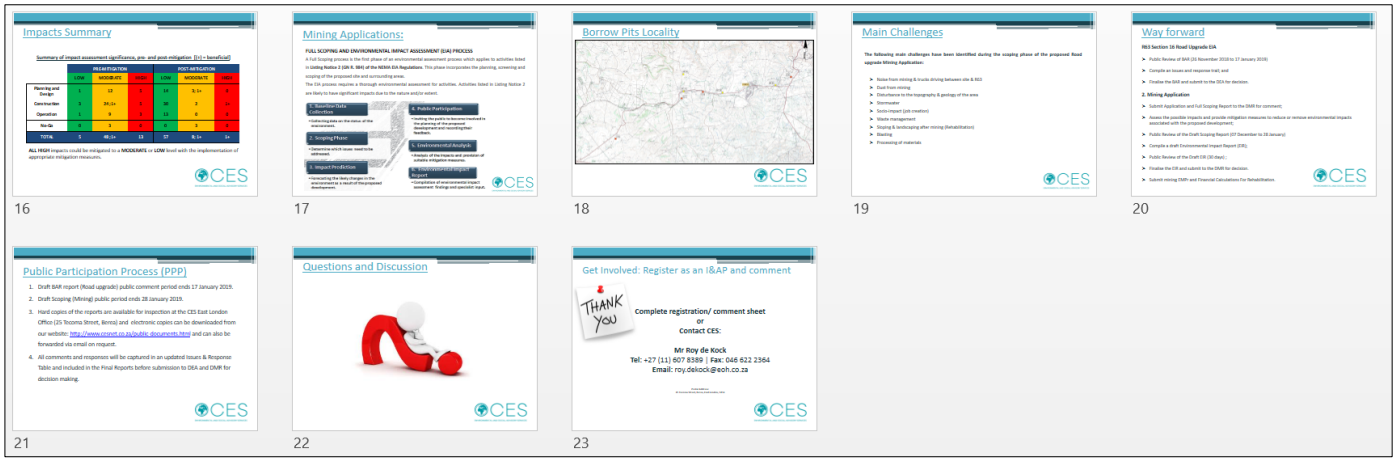
COMMENT	RESPONSE (FROM ROY DE KOCK)
Which bridges will be upgraded?	CES to confirm with UWP which brides will be upgraded and their designs
At which sections will the road be widened to outside the current road reserve? Which farmers will be affected?	CES to confirm with UWP where the road will be widened to outside the existing road reserve and which landowners will be affected.
	The affected landownes has been identified and talks with them has commenced but this will be confirmed.
Can you guarantee that this project will not result in any unwanted unrests in the Komga area?	No, unfortunately we cannot guarantee no unrests. We can however ensure that we have all agreements in place with local communities and their leaders prior to commencement of construction. This should reduce the risk of unrests relating to the project when construction starts.
Please take note that the section of road past the golf course is considered a "high accident zone"	Noted thank you. This is part of the reason why SANRAL is upgrading the R63 through Komga.
(adding to the previous comment) this includes the entrance to Spar	

Minutes of Meeting Page 1 of 2

COMMENT	RESPONSE (FROM ROY DE KOCK)
Will there be any Stop-Go's?	There may be, but I am aware that SANRAL is moving to a construction design for road upgrades that reduce the number of Stop-Go's during construction. Keep in mind that this is an unwanted necessity that is temporary.
Please provide us with the updated maps for the road layout	Updated maps will be hand delivered to Guy Rensburg as per agreement during the meeting.
What updates are proposed for the flyover at the N2	CES to confirm this with UWP
What type of fence lines will SANRAL place along the R63?	CES to confirm this with UWP
It is important to manage general waste at these Stop-Go's. This is where plastic and other waste are left and windblown around the area	CES has noted this as an impact and will include the assessment thereof in the EIA.
Mining site Q11 is very close to a groundwater source. This is a concern.	Noted. This will be assessed in the EIA for the mining sites.
It is recommended that mining site BP28 be moved westwards into the vegetated area. This will reduce the loss of arable agricultural land	CES will investigate and discuss with UWP.
Please add Cllr Z Tetali from Ward 7 to the I&AP list	He will be added.

16.1.9 Presentation at public meeting:





16.1.10 Interested and affected parties database

Below is a list of all stakeholders identified during the EIA process:

STAKEHOLDER & ORGANISATION	NAME & SURNAME	EMAIL ADDRESS
Amathole DM Manager	Chris Magwangqana	chrisma@amathole.gov.za
Amathole DM Local Gvt Support	Honjiwe Mayaphi	hmayaphi@environment.gov.za
Amathole Environmental Manager	Luyanda Mafumbu	lmafumbu@amathole.gov.za
ECPHRA	Mzikayise L Zote	mlzote@ecphra.org.za
ECPHRA	Mzolisi Matutu	Mzolisi.Matutu@srac.ecprov.gov.za
DEDEAT (Amathole)	Briant Noncembu	Briant.Noncembu@dedea.gov.za
DEDEAT (Amathole)	Hlomela Ntsini	Hlomela.Ntsini@dedea.gov.za
DWS	Lizna Fourie	Fouriel4@dwa.gov.za
DWS	Londi Mbikwana	MbikwanaM@dwa.gov.za
DAFF (Forestry)	Mxolisi Dan Malgas	MalgasMa@daff.gov.za
DAFF (Forestry)	Gwendoline Sgwabe	GwendolineS@daff.gov.z a
Department of Rural Development and Land Reform	Bahlekile Keikelame	Bahlekile.Keikelame@drdlr.gov.za
DAFF (Forestry)	Dorothy Jagers	DorothyJ@daff.gov.za
BCMM (Municipal Manager)	Nceba Ncunyana	ncebaac@buffalocity.gov.za
ECPHRA (EC Heritage)	Sello Mokhanya	smokhanya@ecphra.org.za
Department of Mineral Resources (DMR)	Deidre Watkins	deidre.watkins@dmr.gov.za
National Dep. Of Public Works	Mayan Mangia	mayan.mangia@dpw.gov.za
Department of Roads & Public Works (DRPW)	Danie Pretorius	danie.pretorius@dpw.ecape.gov.za
Department of Roads & Public Works (DRPW)	Nomzingisi Tukela	nomzingisi.tukela@dpw.gov.za
Nkonkobe Ward	Councelor Guzi	colleenguzi@gmail.com

STAKEHOLDER & ORGANISATION	NAME & SURNAME	EMAIL ADDRESS
Councillor (Ward 2)		
Nkonkobe Ward Councillor (Ward 3)	Councillor Blackie	-
Nkonkobe Ward Councillor (Ward 6)	Councillor Kganagi	akganegi@ufh.ac.za
Nkonkobe Ward Councillor (Ward 8)	Councillor Bantam	-
Nkonkobe Ward Councillor (Ward 13)	Councillor Mjo	thobekamjo.tm@gmail.com
Nkonkobe Ward Councillor (Ward 20)	Councillor Papu	papu.lunga@gmail.com
Nkonkobe Ward Councilllor (Ward 21)	Councillor Stofile	-
Nkonkobe Ward Coiuncillor	Councillor Thabis Mohoto	thabisomohoto@gmail.com
TRANSNET	Gideon van Niekerk	Gideon.vanNiekerk@transnet.net
TRANSNET	Teresa Koegelenberg	Teresa.Koegelenberg@transnet.net
TRANSNET	Robert Phakathi	Robert.Phakathi@transnet.net
TRANSNET	Mark Moodaley	Mark.moodaley@transnet.net
TRANSNET	Thandeka Nohoyeka	Thandeka.nohoyeka@transnet.net
TRANSNET	Cobin Minnie	Cobin.Minnie@transnet.net
TRANSNET	Harold Kleber	harold.kleber@transnet.net
Eskom	Angelina Shalang	-
Eskom	Howard Blane	-

Below is a list of all surrounding landowners identified during the EIA process:

Landowners	Erf / Farm	Name	Email
Norton Thompson	Farm RE/25 AND RE/9	Norton Thompson	glen.roy@mweb.co.za
Kevin Athol Hart	Farm RE/24	Kevin Athole Hart	
EV Krull Trust	Farm 17	EV Krull	
	Farm RE 18	EV Krull	
	Farm 15/5		
	RE/2150		
	10		
Fairhart Trust	RE/39		
Woodbury Farms cc	Farm 41 Ptn 1 (Bleak Moor)	Woodbury Farms cc	
	Farm 41 Ptn 3 (Bleak Moor)	Woodbury Farms cc	
Ndimba Cattle Company Pty Ltd	Re/41	Ndimba Cattle Co Pty Ltd	
State (Contact	RE/45	Republic of South Africa	

Landowners	Erf / Farm	Name	Email
Siphelo Mvolontshi)			
Robert Cawthorn Family Trust	43/5	Robert Cawthorn Family Trust	
Christopher John Rensburg	RE/46	Christopher John Rensburg	
Tanqa Valley Trust	Re/47	Tanqa Valley Trust	
Kawulezile Templeton Mdlalana	2/47	Kawulezeli Templeton Mdalana	
Osterloh Prop Trust	33		
Tanqa Valley Trust	49/1	Tanqa Valley Trust	
State	48	State	
Kawulezile Templeton Mdlalana	32/2	Kawulezile Mdlalana	
Eugene Osterloh	50/5	Osterloh Trust	
Murray Field Farms	32/1	Murrayfield Farms cc	
Murrayfield Farms	RE/32	Murrayfield Farms cc	
Gareth Ken Randall	31/3	Ken Gareth Randall	
Dorothea Regina Fourie	31/4	Dorothea Regina Fourie	
Renton James Hall	439	Renton James Hall	
Norton Thompson Property Trust	RE/28	Norton Thompson propoerty Trust	
Craig George Carr	26/9	Craig Geoarge Carr	
	2/25	Craig Geoarge Carr	
BCMM (Municipal Manager)	Erf 1060	Nceba Ncunyana	ncebaac@buffalocity.gov.za
TRANSNET	Erf 504, Erf 558, Erf 555, Erf 893, Farm 2/144	Robert Phakathi	Robert.Phakathi@transnet.net
Nkonkobe Local Municipality	Erf RE/905, Erf RE/1, Erf RE/905, Farm 109	Lusanda Menze	lmenze@nkonkobe.gov.za
Province of the Eastern Cape	Erf RE/1024	Danie Pretorius	danie.pretorius@dpw.ecape.gov.za
State	Unalienated State Land	Bahlekile Keikelame	Bahlekile.Keikelame@drdlr.gov.za
Republic of the Ciskei	Farm 166, Farm 164, Farm 165, Farm 2/169, Farm 1/170,	Bahlekile Keikelame	Bahlekile.Keikelame@drdlr.gov.za

Landowners	Erf / Farm	Name	Email
Republic of South Africa	Farm 167, Farm 169, Farm 273	Danie Pretorius	danie.pretorius@dpw.ecape.gov.za
Private Person	Farm 1/144	Peter George Knott	
Borrow Pit 23	RE/28	Norton Thompson	
Borrow Pit 26_Rob Kretzman	RE 32/1		
Quarry 18_Duncun Miles	Farm RE_47	Duncun Miles	
Borrow Pit 22_State	RE/45	Siphelo Mvolosi	
Quarry 4_Roland Krouse	Erf 2152 Ptn 17	Roland Krouse	
SA Native Trust	Farm 284, Erf 543	Bahlekile Keikelame	Bahlekile.Keikelame@drdlr.gov.za

Below is a list of all registered I&APs identified during the EIA process:

I &APS	PROPERTY	NAME	EMAIL
Government	Farm 48		
Komga Golf Club			
Stamina Construction and General Trading		Daluxolo Mpondo	
Mcebisi Clinton Mgudlwa	Amagumba Tribal Authority		clinton.jtc@gmail.com
Khangelani Bantwini	Mafusini/Sgangeni		
David Yonan	Sgangeni		
Manelisi Mangcanyaza			
Siyabulela Goibon			
Nolitha Sofaya	Siyakhuphuka Construction		nolitha.sofaya@gmail.com
Z. Gwanyaza	Mwelase Trading		mwelasetrading@gmail.com
I. Symmela	Ward 6 Community Member		
Bongiwe Hoyana	Ward 6 Community Member		
Tandiswa Mbontsi	Ward 6 Community Member		
Colleen Guzi	Ward 5 Councillor		colleenguzi@gmail.com
Vusani Nyengela	Ward 2 CDW		vusaninyengela@gmail.com
S.A. Nivi	Ward 6 Councillor		Singiliziwe.nivi@gmail.com
Kholiswa Adam	Kholisile General Trading		kholisilegeneraltrading@gmail.com
Thandokazi Sontaba	Ward 6 Community Member		
Simpiwe Litye	Alice Construction Forum		slitye@gmail.com
Monica Tom	Ward 6 community member		
Martin September	Ward 6 Committee		Septembermo3030@gmail.com

I &APS	PROPERTY	NAME	EMAIL
	member		
Desmond Botha	Ward 6 committee member		
L. Thobela	Ward Councillor		
Wisizwe Nika	Ward 2 community member		justicewnika@gmail.com
Thobeka Mjo	Ward 18 councillor		thobekamjo.tm@gmail.com
Lungelo Ngwentle	Mxhelo Residents Association		lungelongwentle@gmail.com
Nolubabalo Meli	Ward 6 Community Member		
Ntombozuko Mbem	Ward 6 Community Member		
Sitilen Trompeter	Ward 6 Community Member		
Ntombikayise Buwa	Ward 6 Community Member		
Andile Makaza			ntlanetrading@gmail.com
Sandile Roxa	ST Enterprise		sandileroxa@gmail.com

16.2 APPENDIX B: IMPACT ASSESSMENT

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
PLANNING & DESIGN PHASE									
GENERAL IMPACTS									
Eastern Cape Biodiversity Conservation Plan (ECBCP)	The critical biodiversity areas, could be adversely affected if the planning and design of the proposed mining sites is not consistent with the ECBCP recommendations for Critical Biodiversity Areas (CBAs).	**Direct**	**Permanent**	**Regional**	**Possible**	**Severe**	**HIGH NEGATIVE**	The planning and design of the proposed mining sites must adhere to the recommendations of the ECBCP, *where possible.*	**MODERATE NEGATIVE**
Amathole District Municipality (ADM) Integrated Development Plan	Failure to comply with the ADM IDP could lead to unnecessary delays in construction activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.	**Direct**	**Long Term**	**Municipal**	**Probable**	**Slight**	**LOW NEGATIVE**	The planning and design of the mining sites associated with the National Route R63 Section 16 should be consistent with the IDP.	**LOW NEGATIVE**
Great Kei Local Municipality (GKLM) SDF and IDP	The planning and design of the mining sites associated with the National Route R63 Section 16 should be consistent with the Great Kei Local Municipality SDF and IDP.	**Direct**	**Long Term**	**Municipal**	**Probable**	**Moderately severe**	**LOW NEGATIVE**	The design of the National Route R63 Section 16 must be consistent with the Great Kei Local municipality SDF and IDP	**LOW NEGATIVE**
Compliance with relevant environmental legislation and policy	During the planning and design phase non-compliance with the laws and policies of South Africa pertaining to the environment could lead to damage to the aquatic and terrestrial environment, unnecessary delays in construction activities, and potentially criminal cases, based on the severity of the non-compliance, being brought against the proponent and his/her contractors.	**DIRECT CUMULATIVE**	**Localised**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• All relevant legislation and policy must be consulted and the proponent must ensure that the project is compliant with such legislation and policy. • These should include (but are not restricted to): MPRDA, NEMA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.	**LOW NEGATIVE**
Design of the mining sites	During the planning and design phase an inappropriately designed mining site could lead to subsidence, face collapses, erosion and stormwater issues (during mining).	**DIRECT**	**Localised**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• The mining sites must be designed by an appropriately qualified engineer.	**LOW NEGATIVE**
Disturbance to the topography of the study area	During the planning and design phase failure to plan for the permanent disturbance to the topography of the mining sites (as a result of mining) could result in safety hazards, erosion and stormwater issues.	**DIRECT**	**Localised**	**Permanent**	**Definite**	**Moderately severe**	**MODERATE NEGATIVE**	• During the planning and design phase an appropriate mining rehabilitation and closure plan must be developed.	**LOW NEGATIVE**
Storm water	During the planning and design phase	**DIRECT**	**Study area**	**Long-term**	**Probable**	**Severe**	**HIGH NEGATIVE**	• Appropriate stormwater	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	inappropriate stormwater design may lead to an increase in surface soil erosion and subsequently sedimentation of the surrounding rivers and streams.	**CUMULATIVE**						structures must be designed and implemented. • All stormwater structures must be designed in line with SANRAL and DWS requirements.	
HERITAGE IMPACT ASSESSMENT									
Impact on sites of archaeological and cultural significance	During the planning and design phase, poor planning and consideration of the identified heritage sites could result in the loss of sites of archaeological and cultural significance.	**DIRECT INDIRECT**	**Localised**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• All access roads, construction activity and planned mining activities must avoid the identified heritage sites. • The mitigation measures in the Heritage Impact Assessment specific to each identified sensitive site, must be considered during the planning and Design phase. Where damage to these sites is unavoidable, permits must be obtained prior to the construction phase.	**LOW NEGATIVE**
PALEONTOLOGICAL IMPACT ASSESSMENT									
Paleontological findings	During the planning and design phase, poor planning and consideration of the identified paleontological sites could result in the loss of sites of conservation worthy paleontological sites.	**DIRECT**	**Permanent**	**Project Level**	**Possible**	**Moderately Severe**	**LOW NEGATIVE**	During the planning and design phase the ECO and contractor must be made aware of potential fossil findings. They should familiarise themselves with the sort of fossils they may be found in this area.	**MODERATE POSITIVE**
ECOLOGICAL IMPACT ASSESSMENT									
Disturbance of sensitive areas	Poor planning and design of the layout of the mining areas could result in erosion and degradation of water courses and their associated sensitive habitats.	**DIRECT**	**Study area**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• A buffer zone of 32 metres must be kept from all perennial and non-perennial rivers. No development activities may occur within this area. • If any construction or mining activity takes place inside or within 32 meters of any water body, authorisation from DWS must be obtained.	**LOW NEGATIVE**
Loss of endangered and protected vegetation	Poor planning for the removal of sensitive vegetation could result in the permanent loss of plant SCC (e.g. aloes).	**DIRECT**	**Localised**	**Permanent**	**Definite**	**Severe**	**MODERATE NEGATIVE**	• The mining area must be surveyed prior to topsoil removal in order to locate SCC and transplant them into the neighbouring undeveloped environment.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								• A Plant Rescue & Protection Plan must be implemented and managed by a vegetation specialist familiar with the site in consultation with the appointed EM. • The prescribed financial provision for rehabilitation (based on the quantum calculation for rehabilitation) must be submitted to DMR.	

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
CONSTRUCTION PHASE									
GENERAL IMPACTS									
Visual intrusion associated with the establishment of the mining sites	During the construction phase construction activity and the presence and use of large machinery on site and along access roads will result in a visual disturbance of the landscape.	**DIRECT CUMULATIVE**	**Localised**	**Short-term**	**Probable**	**Moderately severe**	**MODERATE NEGATIVE**	• All construction activity should take place during daylight working hours (i.e. 7 – 5pm). • All construction activity and equipment must be limited to the demarcated areas.	**LOW NEGATIVE**
Sanitation facilities	During the construction phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• Sanitation facilities must NOT be located within 50m of any water resources or water drainage areas. • Sanitation facilities must be located within the mining sites footprints. • The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.	**LOW NEGATIVE**
Demarcation of mining pit sites	During the construction phase inadequate demarcation and fencing off of the mining sites could lead to unnecessary environmental disturbance.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• The boundaries of the mining sites must be adequately demarcated to restrict construction and other (eating, washing and ablution) activities. All plant, equipment and other materials must remain within the demarcated boundaries. • The sites must be access controlled with a lockable	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								gates and security monitoring movements.	
Socio-economic	During the construction phase temporary jobs will be created which will benefit the local workforce.	**INDIRECT**	**Study area**	**Short-term**	**Probable**	**Moderately beneficial**	**SOME BENEFITS**	• No mitigation measure.	**SOME BENEFITS**
Waste management	During construction, littering on site may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• Ensure there are sufficient containers for collecting waste. • No waste must be buried on site. • Waste must be collected on a regular basis and disposed of at a licensed landfill site.	**LOW NEGATIVE**
HERITAGE IMPACT ASSESSMENT									
Impact on sites of archaeological and cultural significance	During the construction phase sensitive heritage sites could be damaged or destroyed.	**DIRECT**	**Medium-term**	**Localised**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• If any graves/heritage features are damaged during construction then construction must stop immediately. • Any damage to heritage features must be reported to the EM, Heritage Specialist and SAHRA. • The mitigation measures in the Heritage Impact Assessment (P.12-56), specific to each identified sensitive site, must be implemented during the construction phase to avoid damage to the sensitive sites. Where damage to these sites is unavoidable, permits must be obtained prior to the construction phase.	**LOW NEGATIVE**
	During the construction phase potential unidentified heritage features may be uncovered and damaged.	**DIRECT**	**Medium-term**	**Localised**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• If human graves are uncovered during construction then all activity must stop immediately. • The police and ECPHRA must to be notified immediately. • If any other archaeological artefacts are uncovered during construction then construction must stop and these should be reported to the EM, Heritage Specialist and SAHRA/ECPHRA	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								immediately.	
PALEONTOLOGICAL IMPACT ASSESSMENT									
Palaeontological Findings	During the construction phase sensitive paleontological resources may be uncovered and damaged or destroyed.	**Direct**	**Permanent**	**Study Area**	**Possible**	**Severe**	**LOW NEGATIVE**	The ECO and contractor for this project must be made aware of the fact that the Lower Beaufort Group sediments may contain fossil remains, albeit mostly exposed during infrastructure development. Should important new fossil remains be exposed during construction, the contractor must report this to the ECO and ECPHRA immediately.	**LOW NEGATIVE**
ECOLOGICAL IMPACT ASSESSMENT									
Loss of natural vegetation	During the construction phase Clearing of natural vegetation for site camps and infrastructure will lead to the loss of natural vegetation.	**DIRECT INDIRECT**	**Long-term**	**Localised**	**Probable**	**Moderately Severe**	**MODERATE NEGATIVE**	• The construction footprint must be surveyed and demarcated prior to construction commencing to ensure that there is no unnecessary loss of natural vegetation outside the approved road upgrade footprint. • Where vegetation has been cleared, site rehabilitation in terms of soil stablisation and revegetation must be undertaken.	**LOW NEGATIVE**
Rehabilitation of disturbed areas	During the construction phase a lack of continuous rehabilitation of disturbed areas may lead to the permanent degradation of ecosystems as well as allow alien vegetation species to spread.	**Direct, Indirect, Cumulative**	**Long term**	**Localised**	**Probable**	**Moderately Severe**	**MODERATE NEGATIVE**	• All temporarily impacted areas must be rehabilitated back to their original condition. • Only topsoil from the immediate area must be used for rehabilitation. • All temporarily impacted areas must be restored as per the Rehabilitation Management Plan.	**LOW NEGATIVE**
AQUATIC IMPACT ASSESSMENT									
Material Stockpiling	During the construction phase, stockpiling of construction materials close to watercourses could result in erosion and mobilisation of the	**Direct Indirect Cumulative**	**Medium term**	**Project level, Downstream of water courses**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• During the construction phase no construction material must be stored within 50m of a watercourse.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	materials into the nearby watercourse, resulting in sedimentation and a decrease in water quality and aquatic habitat.							• Stockpiles within 100m of watercourses must be monitored for erosion and mobilisation of materials towards watercourses. If this is noted by an ECO, suitable cut-off drains or berms must be placed between the stockpile area and the nearest watercourse.	
Water Quality	During the construction phase, accidental contamination of wet concrete (highly alkaline) in the rivers/wetland systems could result in flash kills of macro-invertebrates and fish species in the vicinity (see Aquatic Impact Assessment).	**Direct Cumulative**	**Short term**	**Study Area**	**Possible**	**Moderately Severe**	**MODERATE NEGATIVE**	• During the construction phase no concrete mixing must take place within 32 m of any river bank or wetland system. • A serviced fire extinguisher (to neutralise pH levels if a spill occurs) must be available on site in the event that wet concrete is accidentally spilled into the river. • The mitigation measures in the Aquatic Assessment (Appendix A) must be used in conjunction with this report.	**LOW NEGATIVE**
	During the construction phase, accidental chemical spills or other spills (sewage, etc.) in the vicinity of the rivers/wetlands will result in water pollution, adversely affecting the aquatic ecosystem.	Direct Cumulative	Short term	Study Area	Possible	Severe	HIGH NEGATIVE	• During the construction phase no machinery must be parked overnight within 50 m of the rivers/wetlands. • All stationary machinery must be equipped with a drip tray to retain any oil leaks. • Chemicals used for construction must be stored safely on bunded surfaces in the construction site camp. • Emergency plans must be in place in case of spillages onto road surfaces or within water courses. • No ablution facilities should be located within 50 m of any river or wetland system. • Chemical toilets must be regularly maintained/	LOW NEGATIVE

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								serviced to prevent ground or surface water pollution.	
Impact on integrity of dams	During the construction phase inappropriate activities/ encroachment into dam (artificial wetland) areas could affect the water quality and integrity of the dams.	Direct, Indirect	Medium term	Project level	Possible	Moderately Severe	MODERATE NEGATIVE	• During the construction phase no stockpiles should be placed within the 50 m dam buffer. • No ablution facilities must be located within the 50 m dam buffer. • There should be no destruction of dam walls or excavation within the 50 m dam buffer.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
OPERATION PHASE									
GENERAL IMPACTS									
Compliance with relevant environmental legislation and policy	During the operational (mining) phase failure to comply with existing policies and legal obligations could lead to the project conflicting with local, provincial and national policies, legislation etc. This could result in legal non-compliance, fines, overall project failure or delays in mining activity and undue disturbance to the natural environment.	**DIRECT CUMULATIVE**	**Localised**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• The proponent must ensure that mining is compliant with the relevant legislation and policy. • These should include (but are not restricted to): MPRDA, NEMA, Local and District Spatial Development Frameworks, Eastern Cape Biodiversity Conservation Plan (ECBCP), Local Municipal bylaws.	**LOW NEGATIVE**
Visual intrusion associated with mining activities	During the operational (mining) phase the mining activities could result in a negative impact on the aesthetic value of the study area and immediate surrounds.	**DIRECT CUMULATIVE**	**Study area**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• Mining activities should only take place during normal work hours (7am to 5pm). • Mining activities must be limited to the designated areas and not encroach into surrounding areas.	**LOW NEGATIVE**
Sanitation facilities	During the operational (mining) phase inappropriate siting and servicing of sanitation facilities could result in contamination of surface and ground water.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• Sanitation facilities must be located more than 50m from any water resources or water drainage areas. • Sanitation facilities must be located within the mining sites footprints. • The facilities must be regularly serviced to reduce the risk of surface or groundwater pollution.	**LOW NEGATIVE**
Demarcation of mining sites	During the operational (mining) phase encroachment of mining activities onto areas outside the borrow pit footprints could result in unnecessary environmental disturbance.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• The boundaries of the mining sites must be adequately demarcated to restrict mining and other (eating, washing and ablution) activities. All plant, equipment and other materials must remain within the demarcated boundaries. • The sites must be access controlled with a lockable gate and security monitoring movements	**LOW NEGATIVE**
Storm water	During the operational (mining) phase inadequate stormwater control	**DIRECT CUMULATIVE**	**Localised**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• Water runoff must be controlled and the	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
	could result in soil erosion and impact surface water quality.							stormwater management plan implemented.	
Spillage of hazardous substances	During the operational (mining) phase spillage of any hazardous substances such as fuel, chemicals, etc. could result in ground and surface water contamination.	**DIRECT**	**Localised**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• All oils, fuel and other maintenance equipment and supplies must be stored in a secure area with a compacted surface. • Spill kits must be kept on-site and maintained and stored more than 50 m away from any water course.	**LOW NEGATIVE**
Dust control	During the operational (mining) phase dust (generated from mining activities and from vehicles traveling on dirt roads) could be a nuisance during windy conditions.	**DIRECT**	**Study area**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• During windy periods un-surfaced and un-vegetated areas should be dampened down. • Vegetation should be retained where possible as this will reduce dust travel. • Excavations and other clearing activities must only be done during agreed working times and permitting weather conditions to avoid drifting of sand and dust into neighbouring areas. • A speed limit of 30km/h must not be exceeded on dirt roads. • Any complaints or claims emanating from the lack of dust control must be attended to immediately.	**LOW NEGATIVE**
Noise	During the operational (mining) phase mining activities and movement of heavy vehicles could result in an increase in ambient noise levels on site and on surrounding properties.	**DIRECT**	**Study area**	**Long-term**	**Probable**	**Moderately severe**	**MODERATE NEGATIVE**	• Drilling, blasting and movement of heavy machinery should be limited to normal working hours (7 AM to 5 PM). • Ensure there is a facility for nearby residents to make complaints. These must be addressed and recorded.	**LOW NEGATIVE**
Waste management	During operation (mining) littering on site may attract vermin, detract from the visual appeal of the area and pollute the surrounding areas.	**DIRECT**	**Localised**	**Medium-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• Sufficient waste containers must be available. • No waste must be buried on site. • Waste must be collected on a regular basis and disposed of	**LOW NEGATIVE**

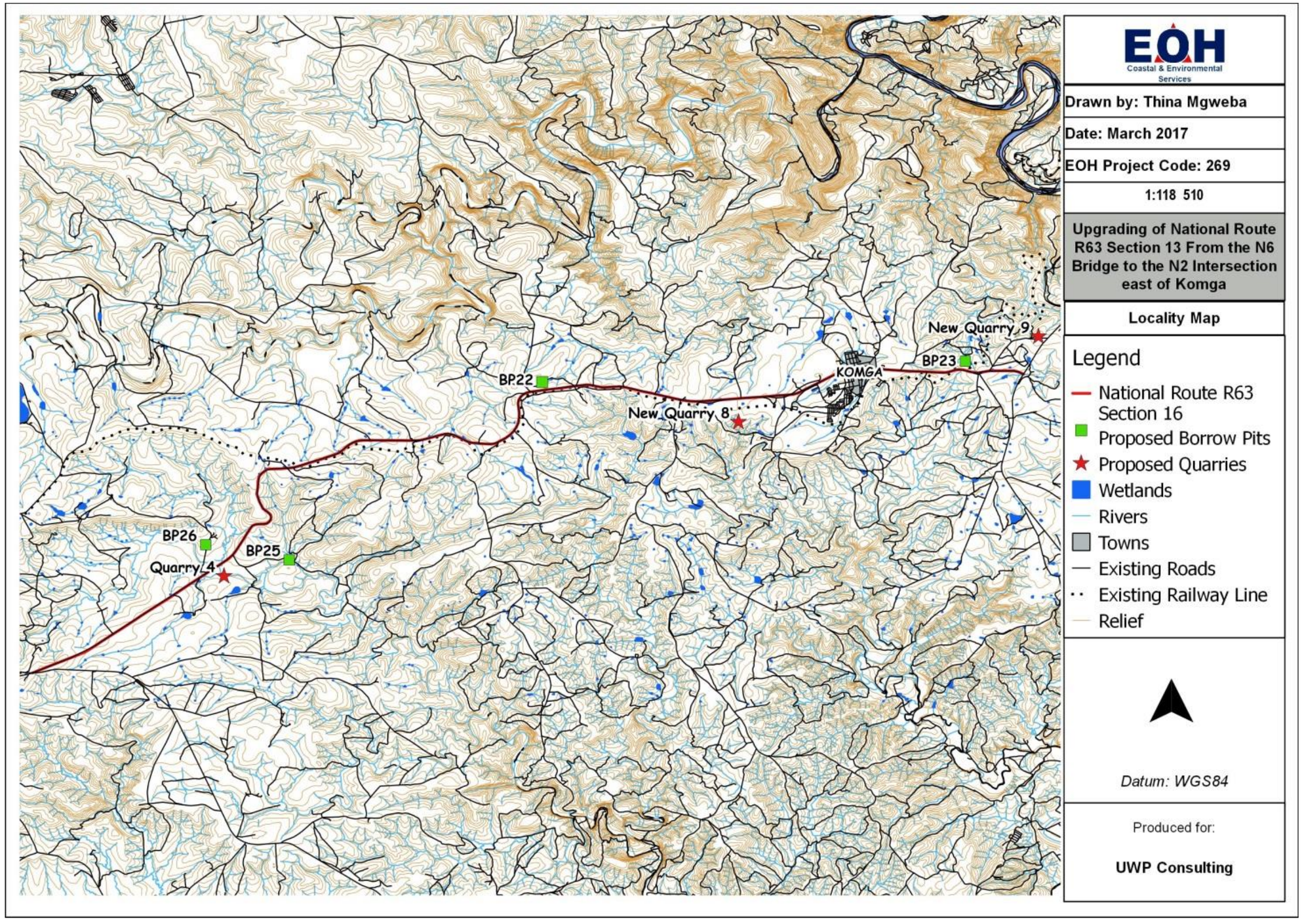
ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								at a licensed landfill site.	
Socio-economic	During the operational phase jobs will be created which will benefit the local workforce.	**DIRECT**	**Study area**	**Long-term**	**Probable**	**Moderately beneficial**	**SOME BENEFITS**	• No mitigation measures.	**SOME BENEFITS**
HERITAGE IMPACT ASSESSMENT									
Identification of archaeological and sites of cultural significance	During the operational (mining) phase sites of archaeological or cultural significance might be uncovered and damaged.	**DIRECT**	**Localised**	**Long-term**	**Possible**	**Moderately severe**	**MODERATE NEGATIVE**	• If human graves are uncovered during mining then all activity must stop immediately. • The police and ECPHRA must to be notified immediately. • If any other archaeological artefacts are uncovered during mining activity then mining must stop and these should be reported to the EM, Heritage Specialist and SAHRA/ECPHRA immediately.	**LOW NEGATIVE**
PALEONTOLOGICAL IMPACT ASSESSMENT									
Palaeontological Findings	During the operation phase (mining) phase sensitive paleontological resources may be uncovered and damaged or destroyed.	**Direct**	**Permanent**	**Study Area**	**Possible**	**Severe**	**MODERATE NEGATIVE**	• The ECO and contractor for this project must be made aware of the fact that the Lower Beaufort Group sediments may contain fossil remains, albeit mostly exposed during infrastructure development. • Should important new fossil remains be exposed during construction, the contractor must report this to the ECO and ECPHRA immediately.	**LOW NEGATIVE**
ECOLOGICAL IMPACT ASSESSMENT									
Loss of endangered and protected vegetation	During the operational phase mining activities may result in the permanent loss of plant SCC.	**DIRECT**	**Localised**	**Long-term**	**Probable**	**Severe**	**HIGH NEGATIVE**	• All areas that will be impacted must be surveyed by a suitably qualified botanist/ecologist prior to topsoil removal in order to locate and rescue any SCC within the area and relocate them. • No SCC must be removed from site. All SCC must be relocated immediately outside of the construction and operational footprint.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								• The contractor's staff must not poach or trap wild animals. • The contractor's staff must not harvest any natural vegetation.	
Inadequate rehabilitation	During the operational (mining) phase inadequate rehabilitation may lead to the permanent loss of sensitive vegetation as well as allow the spread of alien invasive vegetation.	**DIRECT INDIRECT**	**Long-term**	**Localised**	**Probable**	**Moderately Severe**	**MODERATE NEGATIVE**	• A Rehabilitation Management Plan must be implemented. • An Alien Removal Plan must be implemented and run during the operational phase.	**LOW NEGATIVE**
Impact on surrounding fauna and flora	During the operational (mining) phase encroachment of mining activities into surrounding areas may cause unnecessary harm to sensitive faunal and floral species.	**DIRECT**	**Long-term**	**Study area**	**Possible**	**Severe**	**HIGH NEGATIVE**	• The mining areas must be clearly demarcated/ fenced in. No mining activity must extend beyond the demarcated areas.	**LOW NEGATIVE**
AQUATIC IMPACT ASSESSMENTS									
Stormwater management	During the operation phase inappropriate routing of stormwater will lead to stream sedimentation.	**Direct**	**Long term**	**Localised, Project level, downstream**	**Probable**	**Severe**	**MODERATE NEGATIVE**	Stormwater infrastructure should be monitored post construction to ensure rivers and wetlands do not have changes in sediment levels caused by the ingress of sediment-laden stormwater.	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
DECOMMISSIONING PHASE									
GENERAL IMPACTS									
Final rehabilitation and decommissioning	During the decommissioning phase failure to decommission and rehabilitate the mining site properly could result in soil erosion, storm water issues, safety risks and invasion of alien plant species.	**DIRECT**	**Localised**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• All infrastructure, equipment, machinery and other items used during the mining period must be removed from the sites. • Waste material of any description, including receptacles, scrap, rubble and tyres, must be removed entirely from the mining area and disposed of at a recognized landfill facility. No waste must be buried or burned on the site. • The mining sites access roads, storm water control areas and	**LOW NEGATIVE**

ISSUE	DESCRIPTION OF IMPACT	NATURE OF IMPACT	SPATIAL SCALE (EXTENT)	TEMPORAL SCALE (DURATION)	CERTAINTY SCALE (LIKELIHOOD)	SEVERITY / BENEFICIAL SCALE	SIGNIFICANCE PRE-MITIGATION	MITIGATION MEASURES	SIGNIFICANCE POST-MITIGATION
								any other affected areas must be rehabilitated. • The sites must be covered with locally occurring grass and shaped/ levelled correctly. • All exposed areas must be re-vegetated where possible. • Mining areas must be inspected weekly for soil stability until rehabilitation is complete. • Alien invasive plant species must be eradicated until rehabilitation is complete. • The close mining sites must pose no safety risks. • Rehabilitation must be completed in such a manner that the land can be optimally used post-mining. • Final rehabilitation must be completed within a period specified by the Regional Manager (DMR).	
During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.	During the decommissioning phase failure to comply with the closure requirements could result in unnecessary environmental degradation and failure to obtain a closure certificate from DMR.	**DIRECT**	**Localised**	**Long-term**	**Possible**	**Severe**	**HIGH NEGATIVE**	• Closure must comply with the MPRDA (Act 28 of 2002), NEMA (Act 107 of 1998) and the NEMA Regulations (2014) requirements for mine closure. • A closure plan must be compiled using the guidelines described in Appendix 5 of the NEMA Regulations (2014) and submitted to DMR. • A closure certificate must be obtained from the Minister of Mineral Resources.	**LOW NEGATIVE**

16.3 APPENDIX C: LAYOUT



16.4 APPENDIX D: MINING SITES DESIGNS

16.5 APPENDIX F: SPECIALIST VOLUME

1. Ecological Impact Assessment
2. Aquatic Impact Assessment
3. Heritage Impact Assessment
4. Paleontological Impact Assessment

16.6 APPENDIX G: ENVIRONMENTAL MANAGEMENT PROGRAMME

16.7 A3 PAGE PORTRAIT

.